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EVALUATING INTERPRETIVE PROGRAMS

A

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By

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EVALUATING INTERPRETIVE PROGRAMS

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Abstract

In the face of budgetary shortfalls there needs to be more, not less interpretive program evaluation. Direct evaluation includes the visitor in the evaluation process. Focus groups were tested to achieve direct evaluation for three types of evaluation: front-end, formative, and summative. These tests led to a simplified focus group technique that combines the evaluation objectives, questioning schedule, data recording, analysis, and reporting into one working document resulting in a more efficient and effective method. The Synthesized Model for integrating evaluation and the program development process is presented. The model links the three types of evaluation to appropriate program development stages. It is suggested that direct evaluation with focus groups would fit the model well.

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Chapter One

Introduction

Although interpretation has been around for a long time the process of evaluating interpretive programs has never been widely utilized. The field of interpretation springs from a rich mixture of story telling, teaching, oral history, and nature study. Today interpretive services are found throughout private and public organizations. Some people are lucky enough to get paid for their interpretive talents; corporations and government agencies have large budgets for their interpretive programs. Other interpreters are volunteers at their local museums, zoos, parks, or nature centers. Whether done on a grand scale or with a "shoestring" budget, interpretation can always be improved, and evaluation of interpretive services shows the way for those improvements.

What Is Interpretation?

Early History

The origin of the word interpretation is attributed to John Muir who wrote in 1871 while working in Yosemite Valley, "I'll interpret the rocks, learn the language of flood, storm, and the avalanche. I'll acquaint myself with the glaciers and the wild gardens, and get as near to the heart of the world as I can" (Brockman, 1978, p. 26). It was in the 1920's that the first interpretation began in our parks (Mackintosh, 1986). In the western national parks interpreters were called "lecturers"; they were mostly university scientists and undoubtedly did lecture. In the Rockies, Enos Mills was using the term "nature guiding" for personally conducted programs. That term gained wide acceptance and later it was Mills who first used the term

"interpret" to describe the activity. This use of the word interpret was later adopted by the National Park Service (NPS). Interpretation and nature guiding were not a phenomenon particular to the western parks, back east the education department of the American Museum of Natural History was giving programs of the sort which would later be called interpretation at the Palisades Interstate Park in New York (Knudson, 1995).

Interpretation Grows Up

Name changes seem to indicate a maturing field. "Nature guides" became "naturalists". In the 1930's the NPS employed "naturalists" and "historians". The term interpretation was well established by 1957 when Freeman Tilden's classic work *Interpreting Our Heritage* was published. In the mid-fifties two organizations sprang up, the *Association of Interpretive Naturalists* and the *Western Interpreters Association;* "naturalists" had become "interpretive naturalists" (the author's job title in 1972). Finally in 1987 the two organizations combined into the *National Association for Interpretation,* and all the members were called "interpreters".

Today there are almost as many definitions of interpretation as there are organizations practicing it, but Tilden's definition still works well:

> An educational activity which aims to reveal meanings and relationships through the use of original objects, by first hand experience, and by illustrative media, rather than simply to communicate factual information. (1977, p. 8)

According to Ham interpretation is simply an approach to communication (1992). A problem for those in the field is the general confusion about the term interpretation; people first think of language

translation. That is just what interpretation is--translation. Ham states:

> Environmental interpretation involves translating the technical language of a natural science or related field into terms and ideas that people who aren't scientists can readily understand. And it involves doing it in a way that's entertaining and interesting to these people. (p. 3)

Interpretation is a story told in an interesting way. Visitors to sites which offer interpretation are there by choice. One of the ways they choose to enhance their experience is through the interpretive services offered. What keeps them involved is their desire for relaxation and inspiration, as well as their interest in the site's resources. Interpretation capitalizes on the visitor's curiosity and thirst for enrichment resulting in a beneficial and enjoyable encounter for the visitor because the visitor learns more about the site and the resource. This increased understanding yields a greater appreciation for the resource, which benefits both the visitor and ultimately the resource.

Interpretation for the Twenty-First Century

Interpretation involves communication of information, and methods of communication change. Fifty years ago black and white photographs conveyed interpretive images; twenty-five years ago movies and slides were the methods visitors expected; today videos and CD-ROM based technologies display interpretive efforts. Although interpretation should not be driven by the latest technology, it should embrace those technologies visitors are comfortable with and that are well suited to the interpretive messages. Adopting technological advances changes the way interpretation is presented, and is expensive.

Increased costs coupled with the downsizing in government begun in the 1980's will mean a continuing crisis in interpretive budgeting. Responding to decreased budgets, partnerships between the private and pubic sector will be even more prevalent, and program justification and accountability in both sectors will increase. In both agencies and the private sector interpretive programs will have to be responsive to market pressures and will face budgetary scrutiny; therefore program effectiveness, appropriateness of objectives, and cost efficiency will all be important.

Statement of the Problem: The Need for Evaluation

In the face of budgetary shortfalls there needs to be more, not less evaluation. Two developments should help meet this need:

1. Providing the interpreter with easy to use evaluation techniques.
2. Directly involving the visitor in all stages of the evaluation process.

The hypothesis is: The focus group technique is appropriate for involving the visitor in evaluation of interpretation.

More, Not Less, Evaluation in the Face of Budgetary Shortfalls

Historically, the need for evaluating interpretive programs has been recognized by most interpreters (Ham 1986; Mullins, 1976; Wagar, 1976). Though many areas in interpretive services need to be evaluated there has never been the history of, nor the commitment to, evaluation in interpretive services that there has been in other areas of management or visitor services (Machlis, 1986; Roggenbuck, 1979; Wagar, 1976). While there has been a general lack of evaluation within the interpretive profession it has certainly not been entirely absent. Wagar (1976), Roggenbuck and Propst (1981), Ham (1986), Wright and Wells (1990) and Medlin and Ham (1992) have discussed a

number of approaches and techniques for evaluation.

Increased focus on evaluation is improbable. Administrators in resource management agencies frequently see interpretation as nice but not critical during the budget cutting process (Wagar, 1976). As interpretive budgets decrease, several things occur. Personally conducted programs are abandoned for non-personally conducted interpretation, staff and programs are cut, and greater justification for interpretive services is required. Unfortunately a reaction to decreased interpretive budgets is likely to be the continuing lack of evaluation in the interpretive profession--not the opposite. This is counter productive as evaluation is the key to providing more effective interpretation and more efficient use of the budget dollar.

Illustrating the importance of evaluation is the concept of the Optimal Interpretive Opportunity (OIO) (Jubenville and Twight, 1993). OIO's occur where visitors naturally congregate, they may be man-made, like visitor centers or trails, or natural, like shorelines or overlooks. First of all evaluation can identify these places. Second, evaluation can provide a profile of the visitors and their interests. Third, evaluation can be used to tailor the interpretive presentation to fit the interpretive objectives, the location, the visitors, and the visitors' interests. Fourth, evaluation can judge the effectiveness of the final interpretive product. By concentrating interpretive services at the OIO's, scarce funds can be best spent. Evaluation plays a large part in maximizing limited budgets so that the interpretation provided at the OIO's is the most effective sort of interpretation affordable.

The basis of the problem is the need for more evaluation. To enhance the likelihood that evaluation will increase rather than decrease, the

remaining two parts of the problem must be addressed.

Providing the Interpreter With Evaluation Techniques

First, interpreters need to have easily implemented and inexpensive evaluation techniques available to them. If budgets shrink, and program effectiveness is paramount, then the tools to provide that effectiveness must be inexpensive themselves.

Due to their working knowledge of the resource, the visitors, and the interpretive themes, goals, and objectives, interpreters are the logical choice to conduct evaluation and implement the suggested changes. It is the interpreter that most often creates the interpretive programs. The interpreter conceives of the idea for the interpretive presentation, develops the presentation, and often prepares the product or delivers the program. This personal involvement coupled with good evaluative techniques in the development process, allows the interpreter to implement improvements in the program as it is developing. The chance for effective programs increases while program development costs are minimized.

Directly Involving the Visitor in the Process

The second critical factor in interpretive program evaluation is visitor involvement. The visitor is the reason for the interpretation. He or she receives the interpretive message. One of the fundamental principles of interpretation is that it must relate to the visitor's experience or personality (Tilden, 1977, p. 9). This can be achieved by involving the visitor in the development effort. The most straightforward way is to include the visitor directly in the evaluation process.

Overview of the Study

A more detailed look at evaluation of interpretation requires an introduction to these terms:

Front-end evaluation is collecting useful information about the visitors' background, knowledge, interests and misconceptions. This information allows the program or exhibit to better address the needs of a specific audience (Bitgood and Loomis, 1993). The purpose of front-end evaluation is to know who the audience is and what their interests are. For example, the audience may be fifth grade school groups, or vacationing retirees. Front-end evaluation should provide information to help answer the question, "What do we know about the target audience?"

Formative evaluation is a process in which prototype programs or exhibits are evaluated during their development so that the final product will be more successful. Mock-ups of exhibits may be evaluated before the final version is completed (Bitgood and Loomis, 1993; Loomis, 1987). Personally conducted interpretive presentations should be in a continual state of formative evaluation, always being refined to better fit the audience.

Remedial evaluation is similar to formative evaluation but takes place after the final product is in place. It is used to improve programs or exhibits, or correct mistakes in them. If an exhibit or program is not working, remedial evaluation identifies the causes and leads to changes in what was to have been the final product (Bitgood and Loomis, 1993; Hayward and Loomis, 1995; Loomis, 1987). This can be expensive.

Summative evaluation also takes place after the program or exhibit is completed but is not used to change them. It is used to assess the strengths

and weaknesses of the effort. It tells what worked, what did not, and why. Summative evaluation is a measure of the success of an effort. It should ascertain if the goals and objectives were met but it does not lead to changes in the exhibit or program, it is however useful in identifying and avoiding pitfalls in future efforts (Bitgood and Loomis, 1993).

Direct evaluation simply means asking what you want to know from your target audience. While direct evaluation cannot accurately measure changes in information levels or values, asking the visitor or participant direct questions may provide adequate information for many evaluation situations (Nowak, 1984). Direct evaluation by the visitor at each stage of program development reveals the shortcomings of the program, and provides a surprising source of inspiration and ideas during the process. "The results, when collated, can be used for justification as well as modification of programs" (Nowak, 1984, p. 27).

The appropriateness of the focus group technique as a method of direct evaluation was tested in each type of evaluation situation. Front-end evaluation was accomplished through a series of focus group interviews during the summers of 1996 and 1997 at the visitor center of the Tetlin National Wildlife Refuge (Tetlin NWR) and at the Alaska Public Lands Information Center in Tok, Alaska (Tok APLIC). Formative evaluation was done on a personally conducted interpretive program about Alaskan bears given throughout the summer of 1997 at the Tetlin NWR's visitor center, campgrounds, and at the Tok APLIC.

Focus groups were used for summative evaluation of Bird Week, a large interpretive effort at Creamer's Field Migratory Waterfowl Refuge

(Creamer's Field) in Fairbanks, Alaska with fifth grade students in 1995, 1996, and 1997. The evaluations were used to improve and plan each of the subsequent year's programs.[1]

Chapter Two

Literature Review

Central to this literature review are three questions. The first is, "How did the need for evaluation of interpretation become so critical?" A historical look at interpretation will provide background and some answers. The second is, "How has interpretation been evaluated?" A review of evaluation in interpretation and closely related fields provides the answer. The third question, "Are focus groups a good evaluative technique for interpretation?" will be answered with a review of focus groups' use in evaluation and in interpretation.

History of Interpretation in the National Park Service, How We Got Where We Are

> Although the National Park Service did not invent interpretation, that organization was largely responsible for the broad public recognition of its values in developing understanding and appreciation of nature and history. . . . The National Park Service effectively modified formal educational processes to arouse the latent interests and desires of park visitors, and, as a result of ever-increasing numbers of such visitors over the years, interpretation has become practically a household word. (Brockman, 1978, p. 24)[2]

Interpretation in the National Park Service (NPS) has always been a standard by which other interpretive efforts are measured. Its history mirrors the history of interpretation and evaluation of interpretation.

Interpretive Origins: Pre-NPS and the NPS Until World War Two

Before the National Park Service. Prior to the establishment of the NPS, interpretation was practiced by whoever had an interest. The U.S. Army assumed protection duties of Yellowstone National Park in 1886 and soldiers, stagecoach drivers, and tour guides from hotels attempted to explain thermal features to visitors. Unfortunately, their explanations had little foundation in natural science.

Enos Mills established Longs Peak Inn near Estes Park, Colorado, in 1901 and was a pioneer in nature guiding. In 1904 First Lieutenant Henry F. Pipes, an Army surgeon stationed in Yosemite National Park, laid out trails and labeled plants as part of an arboretum. Frank Pinkley in 1905 collected and displayed artifacts from archeological excavations in what became Casa Grande National Monument. These efforts are the forerunners of interpretation in our national parks: (a) the guided nature walk, (b) the nature trail, and (c) museum exhibits.

The National Park Service assumes responsibility. The National Park Service was created in 1916, but Congress was reluctant to support park educational activities. Parks were to develop interpretive programs on their own, and by 1920 comprehensive interpretive programs were presented at both Yosemite and Yellowstone that incorporated nature hikes, lectures, bulletins, campfire talks, and motion pictures.

At the Eighth National Park Conference in 1925 strong support was given to interpretation when the Education Division was given equal footing with the other two divisions: Landscape Architecture and Engineering. Ranger Naturalists attended a seven week summer training course at the

Yosemite School of Field Natural History founded that year.

While interpretation and education enjoyed high status at the national organizational level they were not universally accepted by park superintendents and rangers. Although the early interpreters were great field naturalists some could not relate well to visitors, and some academicians did not appreciate them either. C. Frank Brockman recalled that among rangers, "interest in natural history was often associated with qualities lacking in 'he-men' . . . [and] not uncommonly they [naturalists] were referred to by their associates as 'nature fakers', or 'posy pickers', or 'Sunday supplement scientists'" (1978, p. 43). Early on interpreters were out of the mainstream of the NPS organization.

Branching into history. With few exceptions interpretation was natural history oriented. Historical interpretation arose with the establishment of Colonial (Jamestown and Yorktown), and George Washington Birthplace National Monuments in 1930, and the NPS's assumption of responsibility of all the War Department's historic forts and battlefields in 1931.

If interpretation leads to better appreciation of the resource in natural settings, it is essential to the appreciation of the activities and events that took place at historic sites. "Although many historical parks have aesthetic appeal . . . few can be greatly appreciated without some explanation of who lived or what occurred there" (Macintosh, 1986, p. 18). Interpretation was so important to historic sites that they received something that natural parks had not, a mandate in the form of the Historic Sites Act of August 21, 1935 which provided for the establishment of museums, historic markers, and

educational programs.

Historical challenges. Most of the Civil War battlefields were developed and marked by the War Department with the direct help of veteran's organizations who's members made up many of the visitors. To these veterans tactics and troop movements were of paramount importance and personal interest. "When the [National Park] Service inherited the battlefields . . . [they] were slow to recognize that contemporary visitors were more likely to appreciate the overall significance of the battles than detailed accounts of their participants and tactics" (Macintosh, 1986, p. 25). This situation highlights one of interpretation's dilemmas: Should interpretation be geared to special interests or to the masses? The Park Service focused its historical interpretation on the average American, and in doing so found its interpreters not respected by academic historians (Macintosh, 1986), just as its naturalists were not respected by academic scientists.

Inaccurate information coupled with the political background of the time led to some incorrect interpretation. Two notable examples are: (a) George Washington Carver's "scientific contributions" dealing with peanuts and sweet potatoes which proved to be largely unfounded; (b) the unsubstantiated story that the birth of the "national park idea" originated at a campfire of the 1870 Washburn-Langford-Done expedition to the Yellowstone region, which was part of the NPS tradition for many years (Macintosh, 1986). Years of incorrect interpretation and biased constituencies make correcting such situations politically and personally difficult.

Evaluation efforts during this first thirty years of interpretation in the NPS are not part of the historical record, but several factors effecting

evaluation are clear or can be inferred. Early on there was more funding for public relations than for interpretation and education. Goals and objectives for interpretive efforts were not clear and certainly were not regularly reviewed as new information came to light or agency policies changed. Interpreters, both naturalists and historians, were separated from their counterparts in academics and from others within the Park Service. Evaluation probably took the form of critical review of the interpreter and the information content of the program. Historical interpretation was given greater emphasis than nature interpretation because of its relative importance to the site. Identifying the audience and tailoring the interpretive presentations to that audience was just beginning. Because interpretation increased the visitors' enjoyment of the resource it was thought of as good but not critical.

World War Two Through the Mission 66 Era

Interpretive programs responded to a change in national needs and goals associated with World War Two (WWII). Interpretation at historic monuments and great scenic areas helped sustain morale, promoted patriotism and the understanding of the fundamental principles of American democracy.

A grant in 1955 funded a ". . . reappraisal of the basic principles which underlie the program of nature and historical interpretation . . ." (Macintosh 1986, p. 83). Freeman Tilden began work that would lead to *Interpreting Our Heritage* (1957), which laid out six principles that are the foundation for effective interpretation. The interpretive message should:

1. Provoke the curiosity of the audience.

2. Relate to the everyday lives of the audience.

3. Reveal the essence of the subject through a unique viewpoint.

4. Address the whole; that is, show the logical significance of an object to a higher level concept or story line.

5. Strive for message unity or a theme; that is use a sufficient but varied repetition of cues to create and accentuate a particular mood, themes, aura, or atmosphere.

6. Interpretation for children should not be a dilution of the presentation to adults, but should follow a fundamentally different approach (Tilden, 1957 as modified by Cherem, 1977).

The prosperity and increased leisure time that followed WWII brought about huge demands on our parks. The Park Service responded with Mission 66, a ten-year program to improve park facilities for their fiftieth anniversary in 1966.

Interpretive services were centralized in Harpers Ferry, Virginia, ushering in some profound changes. A talented professional staff ended the "book on the wall" syndrome of text heavy exhibits and instigated a newer, cleaner look. Visitor centers became a desirable element for every park and monument, and became the hub of the visitor's experience. Interpretive efforts were introductory rather than explanatory. The combination of these developments led to a greater exposure of interpretation to the public.

There were also some drawbacks. The "visitor centers everywhere" mentality resulted in intrusive and inappropriate buildings on some sites. The concentration of interpretive efforts in the visitor centers came at some expense of on site interpretation. Examples of "too much of a good thing" are

evident in this period. Audio-visual productions became a mainstay of the interpretive effort, almost every visitor center had one, but their success led to extravagant sound and light productions that were dismal failures. A popular interpretive method was living history, where interpreters dressed in period garb and portrayed period characters; especially prolific were living farms. Agriculture and period characters were introduced to inappropriate parks. Even in satisfactory places living history tended to be a sanitized version of reality; war was not a fun camping trip, and slavery was not happy days down on the farm.

Ultimately the unprecedented expansion of Mission 66 proved to be inadequate, and the emphasis on facilities was not accompanied by sufficient staffing and maintenance. NPS studies of interpretive services in 1962, 1968 and 1973 reveal a lack of standards for interpretive activities, no clear measurements for their success or failure, inadequate training for interpreters, and poor quality seasonal interpreters (Macintosh, 1986).

This post war period was characterized by the NPS and Congress throwing money at problems without a good idea of how to best spend those funds, while at the same time always being behind the demand for recreation and interpretation. Some direction would be provided with a call to environmental action and Earth Day.

Earth Day to the Reagan Era

In 1971 William E. Brown wrote *Islands of Hope.* This was the year of the first Earth Day, and the great awakening of the American population to environmentalism. Brown's islands were the National Parks, and the hope was that our National Parks offered a place where the resource and the visitor

could mix in a healthy fashion and provide the opportunity for visitors to understand their relationships with the resource.

> Brown offered a fresh perspective on environmental interpretation: Environmental interpretation is that body of communications, devices, and facilities that conveys environmental knowledge, stimulates discourse on environmental problems, and results in environmental reform. (p. 77)

Brown's call to environmental action emphasizes Tilden's fourth principle, that, "The chief aim of Interpretation is not instruction, but provocation" (Tilden, 1977, p. 9).

Interpretation saw a shift from the cataloging approach, stressing the names of and facts about natural things, to the ecological approach emphasizing interrelationships. Among nature interpreters there was a growing concern about the degradation of the environment. Many felt the Park Service should do more to make the public aware of environmental problems and actions they could take to remedy them.

The Park Service began to take a leadership role in environmental education. Not recalling the mistake of putting living history characters and farms into inappropriate places, the NPS began to work environmental awareness and appreciation into all its interpretive programs, even into historical programs. This was not welcomed by historians, but riding on the popularity and attention that the first Earth Day created the Park Service forged ahead.

The park visitor's interpretive experience began to change. A new methodology arose--"that of involving visitors in our interpretive events,

not as mere spectators but as participants" (Macintosh, 1986, p. 76). Visitors were wading, crawling, climbing, floating, sniffing and snorting their way through parks in an attempt to enlist all their senses.

The celebration of the Bicentennial brought about patriotic interpretation to a degree not seen since WWII, but against a different political background. America and the Park Service celebrated its cultural diversity. The white European male bias that dominated interpretation in the early years was finally set to rest. The roles of minorities and women took a prominent place in interpretation. Emblematic of such a shift was the prominent installation of a quotation from a Sioux battle participant, "Know the power that is peace," at the Custer Battlefield National Monument (Macintosh, 1986, p. 31).

During this period evaluation of interpretation began in earnest. With recognition of cultural diversity, and realization of the errors of past interpretation, the stage was set. The adaption of environmental education methodology into interpretation brought with it program evaluation. The first serious attempts at evaluation of interpretive programs began to appear in the early seventies (Field and Wagar, 1973; Hunt and Brown, 1971; Mahaffey, 1970; Putney and Wagar, 1973; Washburne and Wagar, 1972).

The 1970's were characterized by environmental awareness, environmental education, environmental interpretation, and environmental action which were buzzwords not just in the Park Service but in other agencies as well. All that changed with the election of 1980.

The Reagan Era to the Present

The Reagan Years were characterized euphemistically as downsizing government. The new Secretary of the Interior, James Watt, brought in his own set of priorities for the agency. Environmentally oriented programs, especially those that led to action were canceled all together or cut severely. Interpretive services felt the pinch. "A back-to-basics movement, inspired by financial retrenchment and a belief that the [National Park] Service was lagging in more traditional responsibilities, would soon affect this [interpretation] and other special programs" (Macintosh, 1986, p. 71).

Management needs were placed foremost; interpretation and visitor services were reviewed annually to see if they served the management needs of the park. Faced with continuing cutbacks the NPS used interpretive services as a public relations tool. "In 1985 Dave Dame, chief of interpretation . . . , saw the function of interpretation 'primarily to develop public support for preserving parks.'" (Macintosh, 1986, p. 81).

Why so Little Evaluation?

Inconsistencies in federal requirements for evaluation slowed evaluation efforts in interpretation. Programs that were funded in part by federal grants were required to include evaluation (e.g. museums and environmental education), while similar programs, like interpretation, which were funded by the federal budget had no such requirement. Without this requirement most federal agencies involved in interpretation relied on experience rather than evaluation to guide their efforts.

When Freeman Tilden was asked how he could tell if he was getting through to his audience he replied, "I can tell by the look in their eyes"

(Reyburn, 1977, p. 17). Until the early 1970's the NPS had acted primarily on instinct when it came to evaluating interpretive services, fifty years of NPS experience provided guidelines to effective interpretation (Mahaffey, 1970).

> It was Tilden and his principles of interpretation that the park rangers, these master interpreters, tried to adhere to. Meet the visitor, take him by the hand, talk to him in low dulcet tones so as not to break the mood or scare the birds, and tell a story without an ending so the visitor can finish it for himself. Provocation leading to enlightenment, a process very close to a religious experience. (Reyburn, 1977, p. 17)

This near religious aspect of interpretation led interpreters to believe that their work was inherently good, and not to be questioned (Roggenbuck, 1979; Wagar, 1978).

One impediment to research was the uncertainty about what and how to evaluate (Roggenbuck, 1979). If interpretation were just facts it would be easy to evaluate by testing, but it is not just information (Tilden, 1977). Wagar wrote that, "In comparison with tons, board feet, animal-unit months, and acre-feet, human enrichment is hard to quantify" (1976, p. 3).

The Office of Management and Budget (OMB) puts constraints on surveys and questionnaires in federal resource areas, and the effort and time required for approval also discouraged many researchers (Roggenbuck, 1979). Cost was another factor, "Evaluation is often expensive. This places the interpretive profession in the unhappy position of asking for additional funds to determine whether its financially constrained interpretive programs are cost-effective" (Roggenbuck, 1979, p. 9).

While agreeing that evaluation is important in pointing out to

decision makers that interpretation is valuable, Wright and Wells state that problems arise because decision makers: ". . . 1) argue over the definition of 'appropriate' public benefits; 2) are not always clear about what or how to evaluate; 3) fail to contemplate fundamental reasons for interpreting at all" (1990, p. 2). The cumulative effect of these constraints led to a late start and slow development of interpretive evaluation.

Fortunately as budgets decreased there was an increased interest in program evaluation. Smaller budgets meant pressure for more efficient use of available dollars. Program justification was necessary to continue funding. Evaluation efforts that began in the 1970's were pursued out of necessity in the 1980's (Machlis, 1986; Roggenbuck and Propst, 1981; Wright and Wells, 1990).

Evaluation of Interpretation

The following review of evaluation of interpretation begins with the reasons for evaluation. It then addresses what should be evaluated by reviewing: (a) the elements of communication, (b) the different views of what interpretation is, and (c) what type of evaluation product is desired. Lastly, a brief review of how interpretation has been evaluated and the techniques used in interpretive evaluation is presented.

Why to Evaluate

> By helping recreationists enjoy and understand the areas they visit, interpretation of natural and cultural history can add substantially to the quality of visitor experiences and therefore to the stream of benefits produced by such areas. Unfortunately, the effectiveness of interpretation in contributing to this stream of benefits has seldom

been evaluated. (Putney and Wagar, 1973, p. 43)

Roggenbuck and Propst (1981) have suggested five reasons for evaluating interpretation, the need for: (a) improvement, (b) assessment of objectives, (c) justification, (d) accountability, and (e) cost effectiveness.

Need for improvement. Identification of effective and ineffective components of an interpretive effort can lead to improved interpretive programs. Putney and Wagar believe that effectiveness is the achievement of a program's objectives, and therefore ". . . you cannot say how well you are doing until you have specified what you are trying to accomplish" (1973, p. 43). Objectives generally fall under one or more of these broad goals: (a) the visitors enjoy the interpretation, (b) the visitors learn from the interpretive service, and (c) the interpretive messages about safe and appropriate use of the resource have the desired effect on visitors' behavior (Medlin and Ham, 1992). Clearly stated interpretive objectives make the decision on what to evaluate much easier.

Need to assess the appropriateness of objectives. Evaluation can be used to keep interpretive programs abreast of change. Organization or agency policies may change; the resource itself may slowly or dramatically change; there may be a shift in the visitors to, or the visitors' use of, the resource. Roggenbuck and Propst (1981) point out that as management objectives or practices change, interpretive objectives must be brought into line with them.

Lewis (1980) suggests bringing about this change in interpretive objectives by continually updating the hierarchy of objectives presented by Putney and Wagar (1973) which begin with the broad policy objectives of the organization and get increasingly specific yielding instructional objectives for

the interpretive program. Updating this hierarchy aligns the organizational and interpretive objectives.

In order to help align interpretive efforts with the desires of the visitor, Mengak, Dottavio and O'Leary (1986) analyzed data from visitor surveys concerning interpretive services. Four categories were created, areas where interpretive efforts: (a) should be concentrated; (b) were appropriate; (c) were low priority; and (d) were overdone. Organization of information in this manner allowed the agency to see if its objectives and efforts harmonized with the visitors' desires.

Need for justification or greater agency support. Recall that historically interpreters were not taken seriously by many scientists and historians in academia, and some park managers. Even in the NPS, "Interpretation has historically been treated as a secondary task by the agency and many individual park managers . . . . This attitude is short sighted, ineffective, and to the extent that it prevents the public from fully understanding their resources, undemocratic" (The Steering Committee for the 75th Anniversary Symposium, 1992, p. 87). Program evaluation can produce the facts and figures that are necessary for program validation and justification (Callecod and Gallup, 1980; Field and Wagar, 1973; Reyburn, 1977; Roggenbuck, 1979).

Roggenbuck and Propst point out that some administrative units, like maintenance, can show concrete results of their efforts, but without evaluation interpretation cannot. By combining management objectives with interpretive objectives, and evaluating the results, interpretation becomes more actively involved with total agency resource management. By being full fledged members of the management team, and by showing results

of interpretive efforts, interpreters gain greater credibility (1981).

Just such a strategy was reported by Maupin, Bassett, Catlin, and Witter (1982) when management objectives of promoting a strong positive attitude toward prairie ecosystems and prairie preservation were enhanced by interpretive programs. Evaluation revealed the success of early programs, and led to greater efforts on prairie interpretation and new similar programs on forests and glades.

Lewis (1980) states that the burden of showing the effectiveness of interpretation lies with the interpreters, and evaluation indicates what objectives are met (Callecod and Gallup, 1980). They advise extending evaluation to justify new interpretive programs, first gathering information on the visitor, who they are, what their interests are, how satisfied with the programs they are, what new programs or services they would like, and then designing new programs specifically to fit the visitors' needs.

Need for accountability. Agencies' budgets depend on tax dollars, and there is an obligation to be able to demonstrate the benefits of their programs (Roggenbuck and Propst,1981). The reality is that there are political pressures for agency accountability. People's knowledge and attitudes about management programs and practices are significantly affected by interpretive programs. Consequently evaluation of interpretive programs can show the benefits of other management programs in addition to the interpretive programs themselves (Nielsen and Buchanan, 1986; Olson, Bowman and Roth, 1984).

Need to determine cost efficiency. Because budgets are almost always tight, the most effective interpretation for the money is desirable. Field and

Wager (1973) council to first define the interpretive objectives, and second select the best procedures for interpreting those objectives to the specific visitors. One way to measure the "best" procedure is to determine its cost efficiency.

Morfoot (1980) reasons that because one of the goals of resource agencies is to increase the flow of benefits to the public, and since interpretive experiences are one of those benefits, interpreters must try and maximize those experiences while minimizing the cost in dollars and personnel time. By identifying Optimal Interpretive Opportunities and concentrating interpretive efforts at them this maximization of interpretive benefits and minimization of funds is achieved (Jubenville and Twight, 1993).

What to Evaluate

Wright and Wells (1990) concentrate on what to evaluate in the interpretive process. They organize the hodgepodge of different viewpoints, approaches, objectives, and methods into three understandable components: (a) communication, (b) interpretation, and (c) evaluation.

The communication component consists of three distinct parts, the: (a) sender (interpreter), (b) message (interpretive presentation), and (c) receiver (visitor) (Roggenbuck and Propst, 1981). Each of these parts can be evaluated separately. Evaluating the interpreter (sender) involves the program content, the interpreter's organization, style, communication skills, and body language. Evaluating the message involves examining content, length of message, unity of theme, appropriateness of media, and audience reaction. Evaluating the visitors involves measuring changes in knowledge, attitudes,

or behavior, resulting from their interpretive experience (Wright and Wells, 1990).

The evaluation of the interpretation component depends on how interpretation is viewed. There are different perspectives as to what interpretation is: (a) recreation or tourism, (b) education, (c) fine art, and (d) management (Contor, 1986; Hardy, 1986; Lewis, 1986; Machlis, 1986; Sharpe,1982; Wright and Wells, 1990). For example, if interpretation is viewed as recreation or tourism, the visitor is considered a customer or tourist, and the interpreter the provider of a service or the tour guide. Such a view calls for evaluation of the visitor's enjoyment, fulfillment, and satisfaction derived from the interpretive experience. In the case of interpretation as education, program success can be evaluated by testing the knowledge or the values imparted to the visitors. For some interpretation is the art of explaining science or history, and from this perspective critical review would be appropriate evaluation as it is for other arts. Agencies often view interpretation as a management tool that provides for natural and cultural resource protection, promotes safe and pleasurable visits, and increases public understanding of management practices, goals, and objectives. Given this view appropriate evaluation concentrates on how well interpretive programs meet these management objectives (Wright and Wells, 1990).

Not-with-standing the different perspectives of interpretation Wright and Wells note that the evaluation component deals with "the ideas of effectiveness, efficiency, quantity and quality [which] pervade interpretive decisions and assessment" (1990, p. 11-12). The type of evaluation product

desired will dictate the type of evaluation chosen. The quantitative measures of numbers and revenues are often associated with the efficiency of interpretive programs (e.g. How many came? What did it cost?), while qualitative measures have been associated with effectiveness (e.g. What are the benefits? What did the participants receive?). They note that some believe ". . . determining the true value of park interpretation may require the use of qualitative techniques--words instead of, or in combination with numbers" (p. 12). Wright and Wells conclude that interpretive evaluation should include both quantitative and qualitative methods, and quote Bitgood, "In the extreme, both approaches are problematic. Descriptive statistics fail to capture the variety and richness of human responses. On the other hand, a complete lack of quantitative description makes it difficult to see the orderly patterns of behavior that are evident when behavior is measured by numbers" (1988, p. 7).

Evaluation Techniques

Over thirty qualitative and quantitative techniques have been used to evaluate interpretation. From the previous sections it is apparent that the choice of technique depends on what perspective of interpretation prevails, what portion of the communication process is to be evaluated, what type of product is desired, and when in the interpretive process the evaluation takes place. Several works offer guidelines for the selection of appropriate evaluation techniques (Medlin and Ham, 1992; Roggenbuck and Propst, 1981; Wagar, 1976; Wright and Wells, 1990). Evaluation techniques that are used in interpretation fall into four categories: (a) critical review, (b) observation, (c) questionnaires and surveys, and (d) interviews.

Critical review. Critical review is done by oneself, peers, supervisors, mentors or other experts (Evens, 1984; Lewis, 1986). No matter who does the review or what is reviewed the evaluation is qualitative. Subjective judgments are made about the interpretive service and are based upon the evaluator's experience, a list of criteria, or program objectives (Freed, 1983; Regnier, Gross and Zimmerman, 1994). The greatest value of critical review is that the critic can synthesize the various aspects of an interpretive program and translate them into suggestions for improvement. This type of evaluation is easy to implement if a person well versed in interpretation is available, and the evaluation is generally quick. There are some drawbacks to this method. Critical review does not involve the most important critic, the visitor. The training required to become an expert critic is high, so finding recognized, well qualified individuals may be difficult or costly. In some circumstances critical review may not be considered sufficient for program evaluation and may have to be augmented with another form of evaluation.

Observation. Observation is a quantitative technique done by actually watching visitors, or observing traces left by them (Dick, Myklestad, and Wagar, 1975; Feldman, 1978; Roggenbuck, 1979). Direct observation often measures visitors' numbers, activities, attention, or actions (Alderson and Low, 1985; Shiner and Shafer, 1975). Indirect observation concentrates on the visitors' traces that are indicators of their actions (e.g. amount of litter, worn carpet, smudges on exhibits, trail wear, or recording devices) (Callecod and Gallup, 1980). The quality of the information gathered by observation is unrivaled by other methods, so it is a technique often used in evaluation (Hanna and Silvy, 1978). The advantages of observation are that it allows the

evaluator to see what the visitors actually do, rather than what the visitors say they do, and to see the context in which the visitors' actions occur. Observation places little burden on the visitor; its cost and time commitment are extremely variable depending on the type, length, or numbers of observations. The main limitations of the technique are that observers do not know what is going on in the visitors' minds, something which might be revealed by a simple question; and the tendency for the observer to be attracted to strange or atypical behavior, or individuals, which may bias the evaluation.

Questionnaires and surveys. Sampling visitors' opinions, knowledge, or interests through responses to questionnaires and surveys is a quantitative technique often used in evaluating interpretation (Bishop, 1992; Blahna and Roggenbuck, 1979; Dawson and Roggenbuck, 1979; Nielsen and Buchanan, 1986). Typically questions are designed to reveal if program objectives were met, or whether or not the interpretive program conveyed certain information (Mengak, Dottavio, and O'Leary, 1986; Morfoot and Blake, 1979). Questionnaires and surveys contain numerous types of open and closed ended questions, yielding data of varying quality, which can be analyzed in numerous ways. This broad range of qualities is at the same time their greatest advantage and shortcoming. A well designed questionnaire or survey can yield relevant, specific, and valuable information, but results from a poor design may be not only useless but also misleading. Fortunately there is a wealth of literature to guide the use of this approach. It takes expertise and time to design adequate questionnaires and surveys and to analyze their results. Their cost depends upon their complexity, and they place a significant

burden on the visitor, and therefore are limited by OMB constraints.

Interviews. Interviews are face to face conversations that take place to gather information about a specific topic (Alderson and Low, 1985; Christensen, 1986; Moeller, Mescher, Moore, and Shafer, 1980; Regnier, Gross, and Zimmerman, 1994; Washburn and Wagar, 1972). Depending on their degree of structure they may yield qualitative or quantitative data. Interviews are particularly good at determining how an interpretive program appears to visitors, what changes could be made to make the program more appealing, and to gather information that may become part of interpretive programs. Interviews are flexible and can address complex issues. Limitations of interviews are: (a) the tendency for the respondents to try and please the interviewer, (b) changing the way questions are asked to different respondents may change their answers, (c) they are time consuming, and (d) often extensive training is required to conduct interviews and analyze their results. One type of interview, the group interview or focus group, lessens these limitations to a certain degree.

Focus Groups as an Evaluative Tool

Focus groups were first used as an evaluative technique in the late 1980's, and have been used in numerous fields including: (a) resource management, (b) visitor studies, (c) education, and (d) interpretation. A focus group is a group interview or discussion that is carefully planned to discover the participants' views on a particular matter. It is conducted by a skilled interviewer who leads six to twelve people through a discussion with a series of open-ended questions. The atmosphere is relaxed and informal which encourages the participants to share their ideas. Group members influence

each other so that they respond not just to the questions but to the other members' views as well (Frey and Fontana, 1993; Greenbaum, 1988, 1993; Krueger, 1986, 1988; Merton, Fiske, Kendall, 1990; Morgan, 1988; Morgan and Krueger, 1993; Templeton, 1994).

Focus Groups Used for Evaluation

The focus group technique originated in social studies, however it reached its greatest popularity and use in marketing (Templeton, 1994). The technique has been readopted in social science and evaluation research but "much of the knowledge about focus groups came from marketing researchers" (Morgan and Krueger, 1993, p. 3). Both Krueger (1986, 1988) and Morgan (1988) have promoted focus groups as an evaluative technique which seems particularly useful for early evaluation (front-end and formative), for idea generation, and to confirm other methods of evaluation (independent verification) (Bertrand, Brown and Ward, 1992; Frey and Fontana, 1993; Morgan and Krueger, 1993).

Contributing to the usefulness and popularity of the focus groups technique in evaluation is its adaptability. Focus groups have been used for formative evaluation of nutrition intervention programs (Iszler et. al., 1995) and to determine preferences for nutrition label formats (Lewis and Yetley, 1992). Focus groups have also been used for program evaluation of social services (Magill, 1993), and to assess training needs of social workers, and extension workers (Denning and Verchshelden, 1993; Minnesota Extension Service, no date). They have proven useful with adolescents in exploring student opinion (Franklin and Knight, 1995) and discussing sensitive issues with children (Hoppe, et. al., 1995).

Focus Groups in Resource Management

Focus groups are used in resource management to gain information about users and potential audiences (front-end evaluation), and to develop programs (formative evaluation) (Duda, 1992). These programs tend to be educational or nature oriented activities and therefore very close to interpretive programs.

The Missouri Department of Conservation utilized front-end evaluation with focus groups to find out why blacks were non-participants in nature oriented activities (Thorne, Brown, and Witter, 1992). Maryland developed its watchable wildlife program using focus groups for front-end and formative evaluation (Thompson, 1992).

The Colorado Division of Wildlife uses the technique regularly as part of their human dimensions, responsive management program. They have explored: (a) user and non-user views on wildlife policy, fishing license fee structure, (b) attitudes toward trapping, bear hunting, and (c) to evaluate the environmental education program Project WILD (Bissell, 1992).

Focus Groups in Visitor Studies

Innovative front-end and formative evaluation using the focus group technique is found in visitor studies. At the Shedd Aquarium, in Chicago, evaluation was done during the formative stages of an exhibit on frogs, not for the exhibit itself but for an accompanying line of products that would compliment the exhibit. A series of focus groups of new and repeat visitors, both with and without children were conducted. The results were shared among those responsible for retail sales, special event development, and exhibit development (Wilson, 1997).

Focus groups are often used for front-end evaluation. Taylor and Serrell (1991) stress that it is important to listen to visitors, and that decisions about exhibits be based on the capabilities and limitations of real visitors, not hypothetical audiences. They promote focus groups to uncover the visitors' knowledge, level of interest, and misconceptions about the subject matter. Saunders and Perry (1997) used focus groups in front-end evaluation for an exhibit on biodiversity at the Brookfield Zoo. They identified several key elements that were included in the exhibit to increase the awareness of biodiversity and to stress the importance of preserving biodiversity. Ralphling and Keane-Timberlake (1997) used several focus groups of visitors, including two groups of children, to find out their knowledge levels of astronomy, how they thought about the universe, and what they wanted in astronomy exhibits. Their focus groups also provided summative evaluation on three existing exhibits.

Focus Groups in Environmental Education

Focus groups have been used in conjunction with other evaluative methods in environmental education. Different focus groups with students and teachers as well as pre- and post-questionnaires for students, and teacher questionnaires were used to evaluate TVOntario's "Habitat" learning system. "Both focus group and field test teachers, came up with similar results, which is striking because of the difference in method. Both approved of the learning system as a whole" (Brown, Davis and Mischuck, 1989, abstract). In formative evaluation of a 4-H program Medlin and Patterson used quantitative and qualitative methods including focus groups ". . . to allow for data verification" (1994, p. 9).

Focus Groups in Interpretation

Although the use of focus groups to evaluate interpretation has been suggested (Christensen, 1986; Hoermann, Slez, Heald, 1995; Wright and Wells, 1990) their actual use has been very limited. Most of the work with focus groups has been done by Medlin and her associates at the University of Idaho (Medlin and Machlis, 1991; Medlin and Ham, 1992; Medlin and Patterson, 1994), or has been directly influenced by the materials produced by them. While working on her Masters Degree in Idaho, Medlin participated in two interpretation evaluation projects. One was producing a training video for the NPS on using focus groups as an evaluative technique (Medlin and Machlis, 1991). The other was producing a manual for the U.S. Forest Service on evaluation methods which included group interviews (focus groups) (Medlin and Ham, 1992).

Another instance of formative evaluation in interpretation took place at Craters of the Moon National Park. There a prototype self-guiding trail brochure and a mock set of wayside exhibits were evaluated using focus groups composed of trail users (Clark, 1993).

The author attended a session on program evaluation conducted by Medlin at the National Association for Interpretation (NAI) meeting in Cleveland in 1994. Personal conversations with Medlin (NAI meeting October 29, 30, 31, 1994), Machlis (telephone conversations on January 13, March 24, April 25, and June 28, 1995), and Ham (personal conversations on October 22, 1996 at the NAI meeting in Billings, MT, and November 10 and 11, 1997, at the 1997 NAI meeting in Beaumont, TX) made the author realize

that there is plenty of work to be done with focus groups; in Machlis' words, "We've just scratched the surface."

Chapter Three

Methodology

Introduction

This study utilizes the focus group technique for front-end, formative, and summative evaluation. One of the objectives of this work is to provide simple yet effective evaluation methods to interpreters, therefore the focus group technique is employed in an adapted form. The procedures for conducting focus groups, analyzing and presenting their results, and applying the results to program evaluation are simplified. The simplified procedures are included as each portion of the research is discussed.

Design of the Study

The Choice of the Focus Group Technique

While many evaluation techniques could be used focus groups work especially well for evaluating interpretive programs. *A Handbook For Evaluating Interpretive Services* (Medlin and Ham, 1992) provides four simple, low cost, yet effective evaluation procedures to the practicing interpreter: (a) observation, (b) response cards, (c) readability analysis, and (c) group interviews (focus groups). Of these focus groups allow for direct evaluation, they actively involve the user, visitor, or consumer in the evaluation process. Focus groups are valuable in gaining information about the visitors, their interests, and their motivations. This is particularly important as interpretation increasingly views visitors as customers and follows the market analysis approach in providing services.

Evaluation Stages

Front-end, formative, and summative evaluation were done on

different interpretive programs. Several factors prevented developing and evaluating one interpretive program throughout the entire process. The original concept was to perform summative evaluation on an existing program, Bird Week, and to follow with front-end and formative evaluation while developing new programs at Creamer's Field. Support for these programs dwindled, so Alaska Native crafts demonstrations at the Tetlin NWR visitor center were used instead. Front-end evaluation was carried out as planned but personnel and program objectives changed at the Tetlin NWR, and formal crafts demonstrations did not materialize. Consequently formative evaluation was done with a program entitled "Alaska's Three Bears" given at the Tetlin NWR and the Tok APLIC.

Methods

Adaptations: Simplified Techniques

Shorter groups. Normally it is suggested that focus groups last from one to three hours for adults (Greenbaum, 1988; Krueger, 1988; Morgan, 1988; Templeton, 1994), and one hour or less for children (Hoppe, et. al. 1995; Krueger, 1988). Both of these times were shortened in this study. Focus groups with children at Bird Week lasted fifteen minutes, this was adequate time for introductions, explanation of the process, and to complete a schedule of questions. Focus groups for Bird Week were shortened for three reasons: (a) the rotation between stations including the focus group dictated a fifteen minute period; (b) participants were approximately eleven years old (fifth graders), and longer groups would probably not hold their attention; and (c) trial focus groups with that age group indicated the questioning schedule could be finished in that time.

Focus groups for adult visitors were also shortened. Front-end evaluation focus groups lasted from about thirty to forty-five minutes. Formative evaluation focus groups lasted about fifteen or twenty minutes. Short durations were chosen in both cases in order not to place an undue burden on visitors. Formative evaluation focus groups were shorter than front-end evaluation focus groups because the questioning schedule was shorter and more specific. Front-end groups took longer because more follow up or probing questions were asked. Front-end groups were larger in comparison to the formative evaluation groups.

Group make-up. Ideally focus groups are composed of individuals with similar characteristics but who are strangers. Members of such groups are chosen because they share the same characteristics that the "target group" would have (Krueger, 1988; Morgan, 1988; Morgan and Krueger, 1993). When children are involved it is common to select group members of the same sex and similar ages due to differences in behavior and development (Hoppe, et. al., 1995; Spethman, 1992).

Neither of these guidelines was followed in selecting focus group participants for this study. In most interpretive situations it is not possible to select the focus group members. Most often visitors are traveling together, and do not want to be split away from their families or traveling companions. Groups for Bird Week were made up by teachers and not according to focus group research standards. Interpreters are likely to encounter similar circumstances, and the evaluator will have little control over group make up.

Recording, analyzing, and reporting data. Generally focus groups use a moderator to guide the discussion and a recorder to take notes during the

discussion, and often the discussion is audio taped, video taped, or viewed through one way mirrors by other parties (Greenbaum, 1993; Krueger, 1988; Morgan, 1988; Templeton, 1994). In this study the same person asked the questions, guided the discussion, took notes and operated a small portable tape recorder. Immediately following the focus group the moderator either wrote or more often tape recorded comments about that group.

Data recording, analyzing, and presenting were linked together in a simplified process. The questioning schedule was printed so that the questions were in the left hand column of the page, leaving the right hand column blank for notes (Figure 1). During the focus group discussion key words were written down alongside the questions. As key words were repeated they were underlined, but underlining stopped after three times. In this way the range of ideas represented by key words or phrases was recorded and weighted by the underlining. If a particularly interesting comment was made the word "quote" was written in the field notes so it could be transcribed from the tape recording.

Data analysis was simplified by writing down each of the key word responses and noting that some were frequent, or mentioned at least three times by each group. Data presentation was done in a format modified from Medlin and Machlis (1991) and Medlin and Ham (1992). Each question was written out with the key word responses written underneath, including some very brief comments if necessary, and followed by quotes transcribed from the tapes. This method organizes each question, its key word responses, and pertinent quotes in an concise form; final reports also included summaries and suggestions.

Focus Group Questions. Third stop for this group.
Get a sense of student use of
Creamer's Field.

1. Have you been to Creamer's Field before?
2. Who did you come with?
3. What did you do?

Are classroom materials useful?
Student expectations.

1. What are you going to do today here at Creamer's Field?
2. If there is one thing you could see or do here today, what would it be?
3. If you had to teach a nine year old to identify different birds, how would you do it?

Understand migration?
Importance of CF. Help birds.

1. Why is a place like Creamer's Field important to you?
2. I wonder why the birds aren't here all the time.

Figure 1. Sample page from a questioning schedule.

Data Collection Procedures

Front-End Evaluation at the Tetlin NWR and the Tok APLIC

Mini-focus group. Front-end evaluation took two forms. First was a single mini-focus group (Krueger, 1988, p. 28) involving the four Alaska Native rangers that work at the Tetlin NWR visitor center, and the Interpretive Ranger. It was conducted on June 19, 1996 in the office of the visitor center. The subject of the discussion was the idea for native crafts demonstrations, and the purpose of the group was to share ideas, and solicit input from the rangers.

Visitor focus groups. Five focus groups were conducted with visitors. One was on the deck of the Tetlin NWR visitor center on July 5, 1996 with nine individuals who were all traveling together on Honda Gold Wing motorcycles. Four other groups were conducted in the multipurpose room at the Tok APLIC on: (a) June 25, 1997, with seven participants; (b) July 1, 1997, with ten participants; (c) another on July 1, 1997 with sixteen participants; and (d) on July 7, 1997, with nine participants. All participants were given posters or pins for their time.

The questioning schedule used at the Tetlin NWR visitor center was slightly longer and more detailed than the version used at the Tok APLIC, but the subject matter covered in both was essentially the same. The intent of each of these focus groups was to gain information about the visitors, the reasons they stopped at the visitor centers, and their level of interest in Alaska Native crafts and culture.

Formative Evaluation at the Tok APLIC

Three focus groups were conducted for formative evaluation on a

presentation entitled "Alaska's Three Bears" at the Tok APLIC. This program was given regularly throughout the summer by a Tetlin NWR interpretive intern. The evaluation was used to immediately implement improvements in the presentation, and to note improvements that might be included in future seasons. The focus groups were conducted immediately after the program with volunteer participants who were given posters for their efforts. Two focus groups were held on July 8, 1997, each after a separate program, four visitors participated in the first group, six in the second group. The third group was held on July 14, 1997 and ten visitors participated. The questioning schedule was identical for each group.

Summative Evaluation at Bird Week

Bird Week is an annual spring program at Creamer's Field for fifth graders from the Fairbanks area. The format is such that bus loads of students are broken into three groups that rotate between three stations: (a) bird identification, (b) binocular use, and (c) bird behavior. Summative evaluation took place in 1995, 1996, and 1997.

In order to evaluate Bird Week the classes were divided into four groups and a focus group station was added. This resulted in shorter times at each station, changing three twenty minute segments to four fifteen minute ones. The rotation also meant that the first students to attend the focus groups had not been to any other stations; the second rotation brought students who had been to only one other station to the focus group; and so on through the last rotation when those in the focus group had experienced all three other stops (see Figure 2).

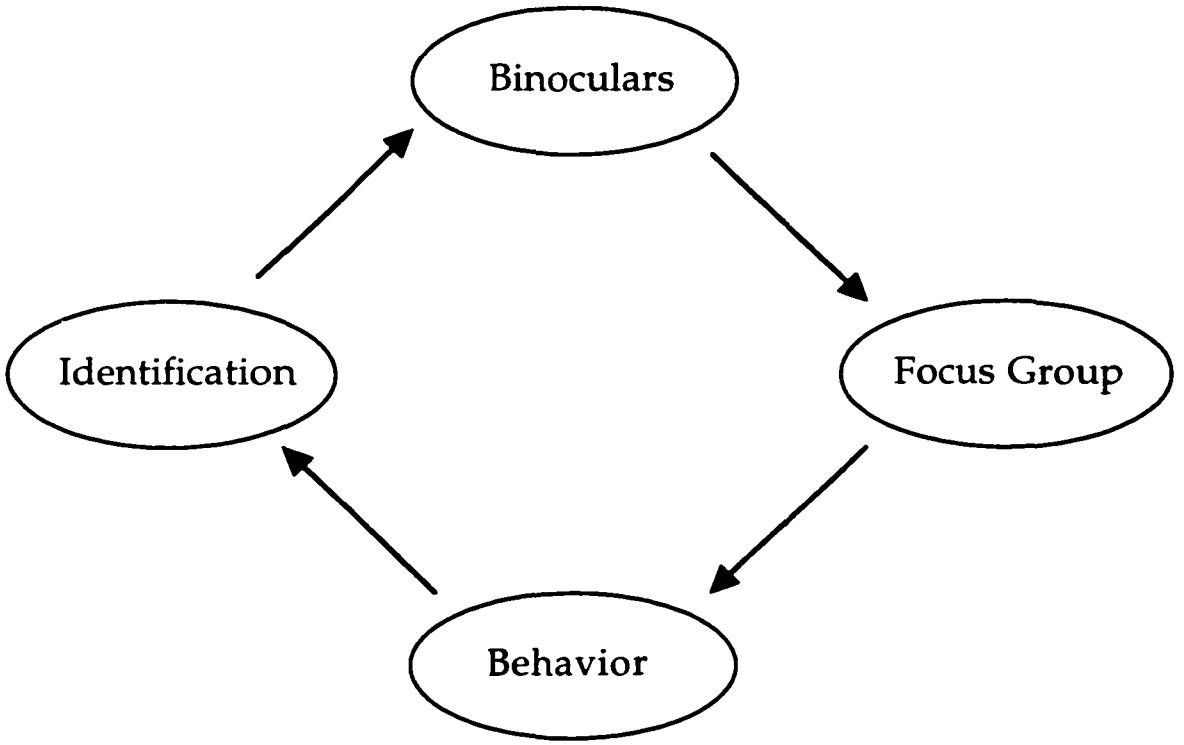

Figure 2. The rotation used during Bird Week, 1995.

A list of open ended questions was developed; these questions were pre-tested on graduate students, and members of the Stingray Swim Team, who were closer to the fifth grade age, to see if they were appropriate. The rotation of the groups was not decided until Bird Week actually started, so the moderators of each focus group chose the questions that they thought were appropriate for the particular group.

Focus groups were conducted by three people, Pam Tacquard, Linda Unsicker, and Don Pendergrast on April 24, 27, and 28, 1995. Nine different classes from three different schools with a total of one hundred and ninety-

four students participated in twenty-three different focus groups, the average group size was eight ranging from six to sixteen. These groups were all recorded and the moderators made summary transcriptions of these tapes. When especially interesting responses were made they were transcribed verbatim.

The focus groups were carried out sitting on the lawn to the east of the Alaska Department of Fish and Game building, which was close to the other stations but removed enough to be quieter and free from distractions. The weather was good on April 24, but cold, windy, rainy and snowy on April 27 and 28. The poor weather dampened the spirits of the students, and by the end of the fourth group they were generally miserable.

Bird Week 1996 and 1997 was evaluated in similar fashion, with a few notable differences. The rotation followed in 1995 was changed so that in 1996 and 1997 the groups rotated from focus groups to binoculars to behavior to identification to focus groups (Figure 3).

This rotation was fixed ahead of time so that the discussion questions could be prepared to exactly fit the student's experience. In 1996 and 1997 each group had twenty questions available, which were grouped into the following four categories and asked in the order the categories are presented: (a) prior experiences at Creamer's Field, class preparation, and student expectations; (b) importance of Creamer's Field; (c) specific questions about migration and the stations visited; (d) likes and dislikes about the Bird Week experience.

Summative evaluation at Bird Week in 1996 was the first time the simplified questioning schedule field note format was used (refer to Figure 1). This arrangement made for easy note taking, an improvement over 1995.

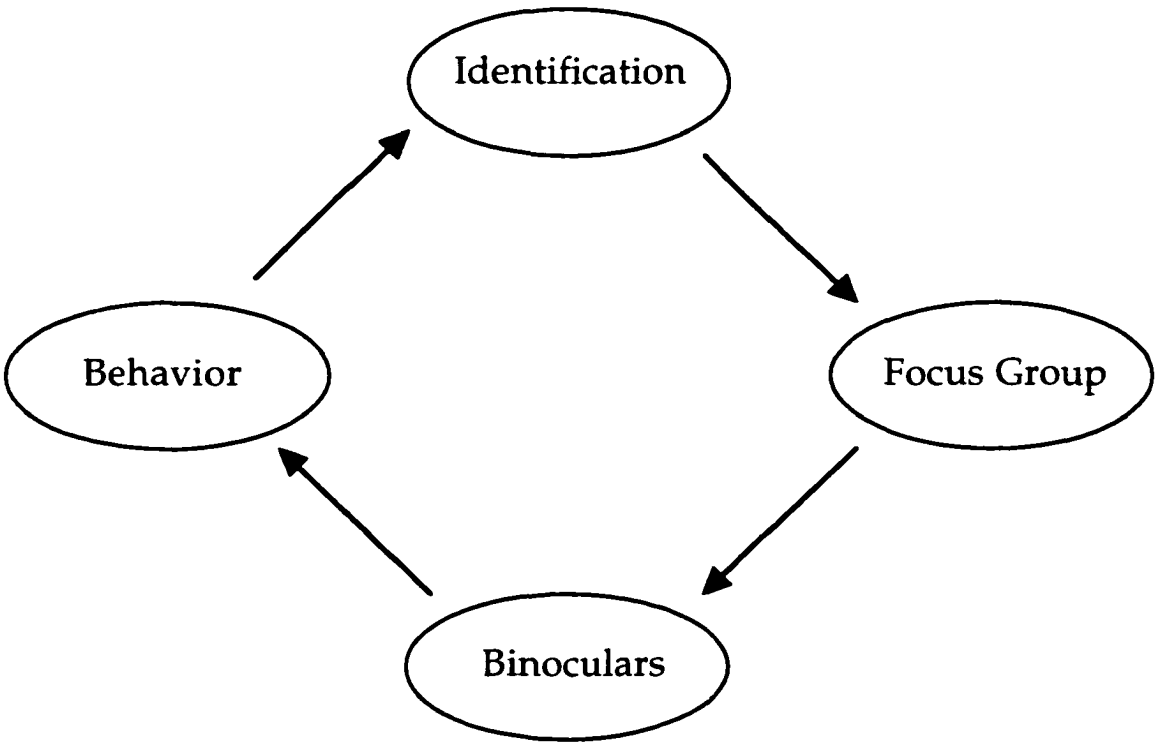

Figure 3. The rotation used during Bird Week, 1997 and 1998.

Every group was not long enough to ask all twenty questions. Some questions were skipped, consequently there were inconsistencies in questioning but far fewer than in 1995.

Focus groups were conducted among the trees in the area to the west of the field and east of the road that runs to the Farm House. The location was not as separate, private, or as quiet as it should have been (See map of Creamer's Field, Figure 4). Only one moderator was used in 1996 and 1997, which resulted in groups larger than in 1995.

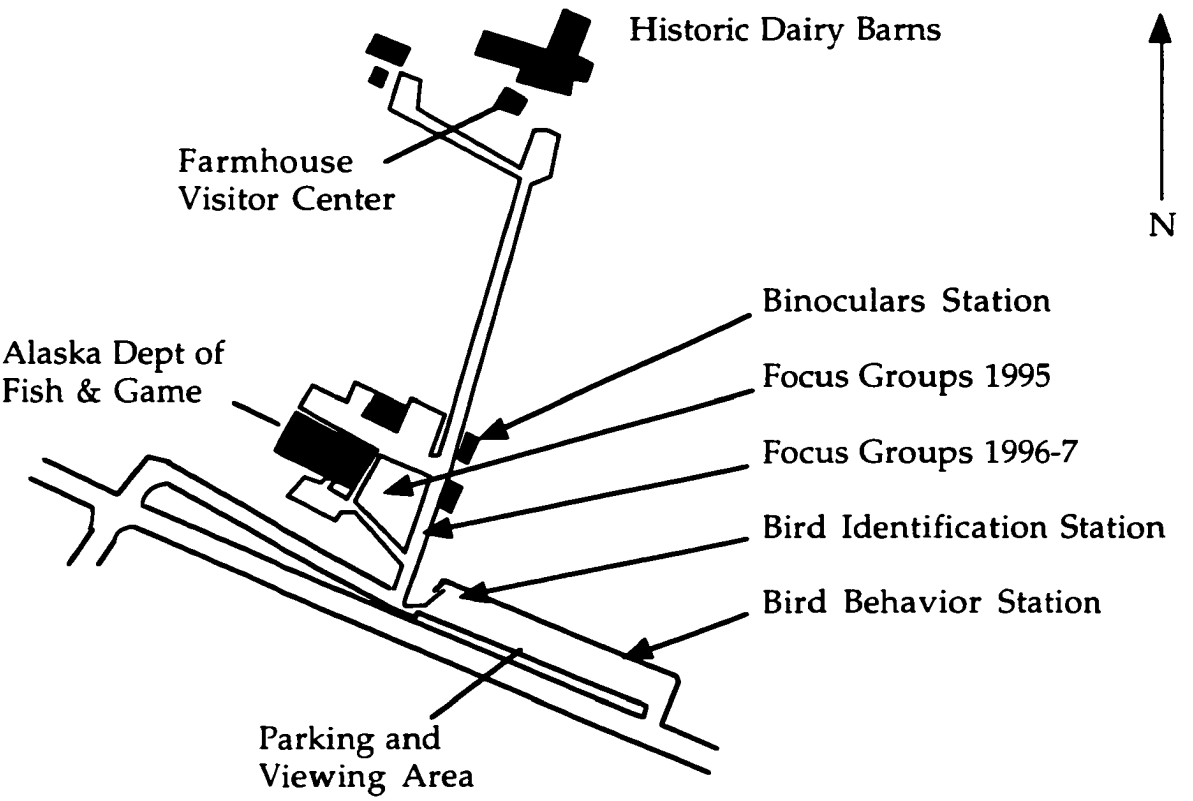

Figure 4. Map of Creamer's Field. Note the locations of Bird Week stations and focus groups in 1995, 1996, 1997.

In 1996 eleven classes from six different schools for a total of two hundred and eighty-four students participated. Twenty-three focus groups occurred with an average size of twelve students. The sessions took place over four different days, April 23, 24, 25 and 26, 1996. All groups were tape recorded, and complete transcriptions of the tapes were made.

In 1997 the numbers of focus groups, classes, and students were considerably reduced. Four classes from two different schools for a total of eighty-nine students participated. Eight focus groups were conducted with an average size of fifteen students. The sessions took place on two days: April 23, and 29, 1997. All groups were tape recorded, but the recordings were only used to provide direct quotations; transcriptions of the tapes were not made.

Data Analysis and Presentation

The goal of easy, inexpensive and understandable evaluation brought about changes in the methods that are normally associated with focus group data analysis and presentation. As stated earlier the methods of Medlin and Machlis (1991) and Medlin and Ham (1992) were modified in this study.

The primary modification is an organizational one which allows the questioning schedule to be used for field notes, data analysis and data presentation. This organization in preparing the questioning schedule streamlines the whole process from conducting the focus groups to presenting the results. This is done in a manner similar to that of Putney and Wagar (1973) in which an increasingly specific hierarchy of goals and objectives is constructed which eventually leads to an evaluative questioning strategy.

The steps for developing this type of questioning schedule are:

1. Find out the program objectives (if a program does not have objectives is cannot be evaluated by this method).

2. Utilize the program objectives to formulate the evaluation objectives (e.g. If a program objective of a nature walk is to teach the types of trees along a nature trail, the evaluation objective might be "To discover if

the visitor can name four trees along the nature trail."). The evaluation objectives are based on the program objectives.

3. Design a number of open ended questions to indicate if the evaluation objectives were met. With outside help choose the best questions (have someone else go over the questions or pre-test them).

4. Organize the questions by evaluation objective.

5. Print the questioning schedule so that the questions are arranged in a column on the left hand side of the page leaving space between questions. This results in space for field notes to the right of the questions.

6. Use the questioning schedule to guide the focus group discussion and to take field notes. Record only key words but underline them as they are repeated. Make a note if a particular quote is striking, and tape record the entire conversation.

7. Use the combined questioning schedule and field note form to organize and present the data. The final report should be a combination and presentation of the: (a) evaluation objectives, (b) the questions, (c) keyword responses, (d) direct quotes, (e) and the evaluator's conclusions and suggestions.

Using a single format to prepare the questioning schedule, take field notes, and report the results minimizes the time the interpreter must spend handling the data. The results are reported in an orderly fashion so that conclusions are more easily reached (See Figure 5).

Evaluation Objective: Get a sense of student use of Creamer's Field.

Have you been to Creamer's Field before?

Eighty nine students were interviewed, seventy nine (89%) had been to Creamer's Field before, and ten had not (11%). Of these one had been to Camp Habitat and one to Science Camp at Creamer's Field.

Who did you come with?

Most of the students who had been to Creamer's Field before had been there with a school group or their family. Occasionally they come with friends, or some other organized group.

Child: I know someone else I came here with.

Don: OK, who was that?

Child: My church, on an outing.

Don: Terrific!

Child: Science Camp.

What did you do?

Bird watching; hiking; biking; photography; collected stuff; used binoculars; focus groups; threw rocks.

Figure 5. Sample page from a final report. This shows evaluation objectives, questions, keyword responses, and direct quotations.

Judging Success

Organized Approach

The key to judging the success of a program is knowing the programs objectives and using them to formulate the evaluation objectives. Judging success ultimately means the interpreter or manager must make a decision as to whether or not program objectives are met. This is done quantitatively by comparing the analyzed data to some selected numerical standard. The decision rests in choosing the standard. With qualitative methods the decision is made after a review of the data. How data is collected, arranged and presented are all important in its review and ultimate interpretation.

The seven steps presented in the previous section yield a report which organizes the material so that it easy to judge if the responses support or do not support the program objectives. If the program objectives are supported the program is successful; if not, it must be redone or abandoned. Not only should the evaluator be able to make a well informed decision, but anyone reading the evaluation report should also be able to reach conclusions easily.

Direct Quotes Are Powerful

While the grouping of the evaluation objectives and focus group keyword responses makes a concise and logically organized data presentation, judgments about the success of a program are aided by the inclusion of direct quotations. Direct quotes breathe life into the data. Recall that Tilden said that he could judge the success of a program by the gleam in the visitor's eye (Reyburn, 1977). These quotes contain information similar to Tilden's gleams.

Chapter Four

Results

The following focus group evaluation results are organized by evaluation type: (a) front-end, (b) formative, and (c) summative. A table presenting information about the focus groups begins each section. The evaluation objectives (the information desired from the evaluation) are presented, and each objective is followed by sample questions and quotations, and a summary of results pertaining to it. Finally each section ends with how the results were employed.

Front-End Evaluation With Visitor Center Rangers

Table 1. Front-end evaluation with rangers.

Date	Location	Participants	Subject	Evaluation
6/19/96	Tetlin visitor center	4	native culture	front-end

Objectives, Quotes, Summary

Evaluation Objective 1: Inform the rangers of my thoughts, plans and activities, concerning Alaska Native crafts demonstrations and focus groups.

Keywords: Not applicable.

Q: To me it makes a lot of sense that there's something that people are interested in, something that you folks are real good at, so we should just combine the two of them. . . You can do things that you enjoy and people will benefit from your knowledge and also we are trying to tie this back to [the Refuge]. . .

This focus group allowed me to explain my ideas about crafts demonstrations, and to explain my reasons and methods for talking with the visitors. In spite of being in my third season working at the refuge, some rangers were skeptical of my motives and methods. One ranger came directly to the point as we were preparing to start the focus group but before the tape recorder was on. She asked who was going to benefit from the conversation (focus group). I explained that my research involved finding good ways to develop programs, that I would be using this (the focus group) to develop interpretive programs that would benefit the refuge, the visitor, and hopefully the native community, as well as myself for my research. She was satisfied with my answer.

Evaluation Objective 2: Bring the rangers into the program development process by giving them an opportunity to voice their opinions on the presented ideas.

Keywords: Not applicable.

Q: Is it a good idea to try and get across your culture to our visitors?

A: Yes to me because they always come in and ask me if I'm a native from around here . . . . If I was born and raised here, and what we do, living, if we still are living the old time ways. I stand there and explain to them what we do.

Q: It seems to me that people are interested in your culture. I think that they are, which is the reason I think that this would be a good program.

A: It will be different from other programs we went to. You know [in

the National] Parks. Its going to be very different, because it will be more natural. They'll see some native work in here and . . .

Q: Do you think that in making things that you should make a number of different things . . . . so there are . . . different things for people to see?

A: I think whatever we sew. We sew whatever is comfortable with us . . . . Because I don't like doing big projects there. I do beads for the pleasure. We should sew whatever we are comfortable with.

The visitor center rangers liked the idea of presenting their culture to visitors, and thought that their crafts were a suitable way to introduce the subject. The demonstrations were seen as a way not just to inform the visitor about Athabascan culture, but also to share that culture with them. One ranger whose primary interest is in beading, was concerned that she would have to prepare and participate in demonstrations of basket making or skin sewing. The conversation put this concern to rest.

Evaluation Objective 3: Provide a format for idea generation by encouraging the rangers to add their own ideas.

Keywords: something different, native people, what kind of gift we have, share it with other people, younger people will get into it, plants, flowers, skin sewing, basket making, beading, muklucks, fur sticks, moccasins, slippers.

Q: . . . there are not really very many places that interpret Athabascan Culture. So do you think native crafts are a good way to do that?

A: That's a way to go about it, we show our visitors how we make our

living, and how we make things to sell, and that's true, if we do this at the visitor center we'll tell people about our native way of life and our culture that would be different from another visitor center. And I don't think this is for anybody else but for us here, and its going to benefit us!

A: So this is something different, I'd like to see this it has something to do with us native people.

Possible crafts demonstrations mentioned were: (a) birch bark basket making, (b) beading, (c) slipper and mukluk making, (d) other skin sewing, (e) wall hangings, (f) fur sticks, and (d) traditional plant uses.

How the Results Were Used

Formal crafts demonstration programs have not yet come to fruition due to personnel short falls and other priorities at the refuge. However, the visitor center rangers have been encouraged to practice their crafts while on duty and a beading table has replaced the more formal information booth. These changes, and the rangers' knowledge that through their work they can begin to explain their culture, have made a great difference in "breaking the ice" with the visitors. Crafts demonstrations are extemporaneous rather than planned, but seem well received by visitors.

Front-End Evaluation With Visitors

Table 2. Front-end evaluation with visitors.

Date	Location	Participants	Subject	Evaluation
7/5/96	Tetlin visitor center	9	native culture	front-end
6/25/97	APLIC	7	VCS/native culture	front-end
7/1/97	APLIC	10	VCS/native culture	front-end
7/1/97	APLIC	16	VCS/native culture	front-end
7/7/97	APLIC	9	VCS/native culture	front-end

Note. VCS is an abbreviation for visitor center services.

Objectives, Quotes, Summary

Evaluation Objective 1: Learn the reasons visitors stop in visitor centers.

Keywords: information, word-of-mouth, tired, lunch, displays, highway conditions, education, e-mail.

Q: Why did you stop in here?

A: Generally speaking if its an area we're going to spend some time in we have been stopping [at visitor centers].

A: We had a journal of a couple who came through here, and in her journal she especially noted the Tok visitor center.

There are three reasons most often mentioned for stopping at visitor centers: (a) to get information (especially if they plan on spending time in the area); (b) the stop was recommended by other travelers; and (c) to see exhibits

and programs.

Evaluation Objective 2: Discover what types of programs and exhibits visitors enjoy.

Keywords: local information, videos, wildlife, indigenous people, history, gold rush and mining, personal touch, women's experiences.

Q: What sort of programs or exhibits do you enjoy in visitor centers like this?

A: I like the guys like you giving programs, because I like the personal touch they put into them.

A: The rangers on the ferry coming up gave a lot of information about the areas we were going through, where the glaciers were and everything else.

A: The history is fascinating.

A: The story out here about the fire, the chronology of historical incidents like that have been very interesting. I was in Valdez . . . the lack of information on the earthquake there just totally amazed me. And trying to hunt it down, I finally found something in the museum but it left so many questions as to what that was . . . it really makes you wonder what really happened in that town, the whole town was rebuilt, was relocated, and its like what went on that's not talked about?

A: The other thing that I really enjoyed, was the display at the university in Fairbanks on women in this area. The museum there is very good, we really enjoyed that. Just looking into peoples lives . . .

Most visitors are interested in seeing wildlife and scenic splendors in Alaska. In addition they are interested in other aspects of natural history, the

indigenous native culture, recent human history (e.g. Gold Rush and Pipeline), and fishing. Personally conducted programs were specifically mentioned. Brevity in both programs and exhibits is desirable.

Evaluation Objective 3: Gauge the amount of knowledge visitors have about and their interest level in Alaska Native culture.

Keywords: customs, language, dances, adaptation to climate, nomadic lifestyle, impact of western culture, native women's experience, food, potlatch.

Q: What are the things about Alaska Native culture that interest you?

A: When we stopped at the first visitor center across the border . . . what I really appreciated seeing was the Native Alaskan women were the hostesses, and you appreciate seeing that.

A: If they didn't freeze to death, it looks like they'd starve to death.

Certain visitors have some knowledge about Native Americans in their part of the country, but most visitors have little knowledge about Alaska Natives. There is considerable interest in Alaska Native culture, and when visitors are exposed to it they remember those experiences quite well (e.g. University of Alaska Museum; Riverboat Discovery; Native Olympics). They are more interested in traditional ways and crafts then in modern native life, but voice concern about disappearing lifestyles.

Evaluation Objective 4: Learn what crafts would tell the visitor about Alaska Native culture.

Keywords: authentic, traditional way, pride, sharing their culture, creativity, relationships between elders and young people.

Q: If you saw native crafts being done do you think that would tell you

anything about the native culture?

A: My experience has been that lots of times people who are good at doing crafts aren't good at communicating to the public, so you've got to carry this a step further to get very much out of it.

Visitors thought that crafts demonstrations would indicate that some traditional ways were being preserved, and that high levels of workmanship would indicate that people took pride in their work and culture. They strongly favor seeing the traditional crafts, not modern ones. Several mentioned that traditional crafts are one thing that could be handed down from one generation to another.

Evaluation Objective 5: Gauge visitors' interest level for watchable wildlife programs.

Keywords: bears, variety of wildlife, birds, wildflowers, trees, videos.

Q: How do you like programs about watchable wildlife?

A: That's what we stopped here for.

A: Most of the slide shows and movies have been great.

A: I think its important that they're not too long though.

A: Sometime you don't want to read, read, read, when you come here. A picture or a poster and maybe just a few words, because you don't want to spend three hours reading every morning.

A: We don't see moose walking across the streets in our cities.

Watchable wildlife programs are of great interest, as are programs on the flora. Visitors want information on bears.

How Results Were Used

These results reinforced the value of some existing programs, but they

will be most useful in planning programs in the future. Existing plans for emphasizing watchable wildlife and traditional Alaska Native culture seem to be appropriate. Because many travelers stop at visitor centers on word of mouth recommendation, visitation might increase if visitor centers promote each other when people stopped. In an attempt to do this a brochure exchange effort was initiated.

Many visitors stopping at the Tetlin NWR visitor center and at the Tok APLIC travel in recreational vehicles and quite naturally are interested in highway conditions. The Tetlin NWR visitor center should have better information about highway conditions.

Two interesting pieces of information surfaced that might be useful at the Tok APLIC. The first was a suggestion for a phone line for internet and e-mail access. One visitor stated that thirty per cent of the people who live in their recreational vehicles are also regular internet users and often use e-mail to keep in touch with their families and friends. If further investigation shows this to be the case then providing access would be a well received visitor service. The second bit of information concerns the origin of the name Tok. There are several stories, but the most favored is that the Tok River was once named the Tokyo River, an approximation of its Athabascan name, and that with the outbreak of WWII, the river's and the community's names were shortened to Tok. One focus group participant was following his ancestor's travels during the Gold Rush, and he had in his possession an old letter that recounted floating down the Tokyo River. The letter of the visitor's ancestor could be woven into the story.

Formative Evaluation: Alaska's Three Bears

Table 3. Formative evaluation of "Alaska's Three Bears".

Date	Location	Participants	Subject	Evaluation
7/8/97	APLIC	4	AK bears	formative
7/8/97	APLIC	6	AK bears	formative
7/14/97	APLIC	10	AK bears	formative

Objectives, Quotes, Summary

Evaluation Objective 1: Ascertain if the visitors can name the three types of bears found in Alaska and point out at least one difference between them.

Keywords: black, brown, polar, cinnamon, grizzly, diet, size, hump, tree climber, color, habitat, claws, teeth.

Q: What types of bears do we find in Alaska?

A: Grizzly and brown are the same thing.

Q; What are some of the differences between these bears?

A: One's a vegetarian and one eats meat, or salmon. Black bears are mostly vegetarian . . .

Visitors were often successful in naming the three types of Alaskan bears (black, brown and polar) but there will probably always be some confusion over the grizzly, which is a brown bear. Visitors could point out many differences between them: size, color, the hump on the back of brown

bears, diet, and claws.

Evaluation Objective 2: Have the visitors name three precautions they should take to avoid bears.

Keywords: talk to yourself, bear bells, sing, minimize smell of food, stay out of bear habitat, look for bear sign, use bear proof containers, bear spray.

Q: If hiking or camping what precautions should you take to avoid bear encounters?

A: Store your food in a bear proof container.

A: Don't try and be the quietest thing in the forest.

Visitors knew to take appropriate precautions in bear country like making noise, minimizing the smell of food, and being mindful of bear sign.

Evaluation Objective 3: Discover if visitors know why they should not feed bears.

Keywords: used to it, depend on it, can get mean, very dangerous, not natural, associate food with humans.

Q: Why shouldn't you feed the bears?

A: A fed bear is a dead bear.

Visitors were aware that feeding bears put not only themselves but ultimately the bear in danger.

Evaluation Objective 4: See if visitors are able to give a reasonable account of what to do in a bear encounter.

Keywords: stay calm, don't run, don't look bear in eye, make yourself as big as possible, pepper spray, talk in calm tones, cannonball position, back away slowly.

Q: If you encounter a bear, what should you do?

A: Let them know your human.

A: Make yourself look big.

A: Pray.

Every group had good retention of information pertaining to appropriate behavior during a bear encounter. There was considerable interest in pepper spray.

Evaluation Objective 5: Obtain suggestions for program improvement.

Keywords: cinnamon phase, recordings, videos, pepper spray, bear proof containers, bear claws.

Q: How can we improve this bear program?

A: One thing that I would like to see pointed out is there is also a cinnamon bear . . . and we saw one on the way up.

Some good suggestions for improvement were made: (a) play recordings of bear sounds, (b) show films about bears, (c) display a bear proof food container, and (d) give more information on pepper spray.

How Results Were Used

Formative evaluation results brought about some immediate changes in the presentation. That grizzly bears are a type of brown bear was stressed. The interest in pepper spray and the confusion over its legality in Canada brought about several changes. Examples of pepper spray were brought in, its proper use was explained, information on where it could be purchased was given, and its illegality in Canada was noted.

If this program is given in the future several of the visitors' suggestions will be implemented, including having a bear proof food

container on hand, and having a video about bear safety available to watch after the presentation.

Summative Evaluation: Bird Week

Table 4. Summative evaluation of Bird Week.

Date	Location	Focus groups	Participants	Subject	Evaluation
1995	Creamer's Field	23	194	Bird Week	summative
1996	Creamer's Field	23	281	Bird Week	summative
1997	Creamer's Field	8	89	Bird Week	summative

Objectives, Quotes, Summary

Evaluation Objective 1: Get a sense of student use of Creamer's Field.

Keywords: family, school, church, scouts, camp, bird watching, hiking, biking, photography, threw rocks, collected stuff.

Q: What did you do [when you came to Creamer's Field before]?

Child: I was fooling around, looking at the birds, throwing rocks at them.

Q: Throwing rocks at the birds?

Children: [Laughter]

Q: [Jokingly] All right, we'll put a big 'X' by your name.

Children: [More laughter].

Most students have been to Creamer's Field before, usually with their parents, most often to bird watch, but also to take the trails or some other nature oriented activity.

Evaluation Objective 2: Ascertain if the classroom materials are useful in preparing the students for the Creamer's Field field trip, and learn student expectations of the field trip.

Keywords: birds, bird watching, bird colors, identification, field booklets, migration, student's behavior, activities, hiking, dress warm, migration, bird's shapes.

Q: What are you going to do here today?

Child: Goose watcher. I'm just going to look around for certain birds and make a book report about it and remember it and then like maybe when I'm older, I'll bring my kids here.

Q: Tell me what you learned in class about birds?

Child: Color of birds, and how they looked, and where they're from.

Child: How far they migrate and what kind of foods they eat.

Child: How many eggs they lay and what they look like.

Each year problems with student preparedness limit the enjoyment and effectiveness of Bird Week. Many are inadequately dressed, thirsty, and need to go to the toilet. Happily the classroom preparedness is better. Most students know what to expect during Bird Week, the *Guide to Spring Birds At Creamer's Field Migratory Waterfowl Refuge* (Friends of Creamer's Field, no date) is widely used by the teachers and well received by the students. Many students wanted opportunities to do more things at Creamer's Field.

Evaluation Objective 3: See if students understand what migration is, the importance of Creamer's Field in the migration process, and whether or not they know what can be done to help birds.

Keywords: change of season, cold, breeding, food in winter, water freezes, not the right conditions, don't stay here, resting, eating, safe from hunters, safe from predators, bird study, feed birds, don't pollute, don't litter, report tagged birds, don't disrupt natural habitat, make bird houses.

Q: I wonder why the birds aren't here all the time?

Child: Because they migrate to different places. It's just like an elevator, when they go up they go somewhere warm, but when that place goes to winter they go back to the same spot sometimes. They go back and forth. If they don't do that they're going to freeze their little feathers off. They would be like chickens without feathers.

Child: Because when it gets cold in the winter, they're smart and they take a vacation.

Child: Is this sort of like a hotel for the birds?

Child: It's also because all the bugs go away during the winter so some of the birds wouldn't have anything to eat.

Q: What are the reasons birds migrate?

Child: For nesting grounds, and mating, and food, and shelter, and predators, and climate . . .

Child: Its like fish, they go back to have babies. Yeah, like silver salmon.

Q: Now, let me ask you why a place like Creamer's Field is important?

Child: It's a really good rest stop for birds . . . . It has been here for a long time so I'm not sure this could happen, but if someone would

take Creamer's Field away, the birds would come here and there wouldn't be anything for them.

Q: What are some things that you can do to help out birds?

Child: Volunteer for projects to help save birds, earn money and then buy food for the birds.

Child: Don't use like toxic stuff because that will kill insects and birds have to feed on insects.

Child: Build feeders and bird houses, and you can coat pine cones in peanut butter, and then roll them around in bird seed, 'cause then the birds eat the seeds, um I forget what eats the peanut butter, and then the squirrels eat the pine cones. So you're feeding a lot of things at once.

Child: Don't disrupt their natural habitat.

Child: If you see a bird with a tag you can call in and tell them what the number was.

The students understood that many birds migrate, however many were not clear as to the reasons for migration. The reason most often given was temperature (e.g. birds go south in the winter because its too cold), but some realized that the lack of food and water were reasons for migration. Fewer still realized that breeding in favorable habitat was the reason birds moved on from Creamer's Field. The students could state several reasons for the importance of Creamer's Field refuge, feeding, resting, and drinking in a safe environment. Some incorrectly stated that Creamer's Field was for breeding (which is true for neotropical birds but not for waterfowl). Most students

thought the way they could help birds was to feed them, some mentioned not littering, helping injured birds, studying about birds, using less toxins, not hunting, and a few mentioned preserving habitat.

Evaluation Objective 4: Identify students' likes and dislikes about Bird Week, the strengths or weaknesses of the activities, and to get ideas for improving them.

Keywords: birds, learning, listening, behavior station, spotting scopes, binoculars, field booklets, walking, cold weather, too short, hold a bird, feed the birds, touch a bird, kill birds.

Q: If you came here again, who would you like to come with and what would you like to do?

Child: I want to come with my class again, because when you come with your class you learn more stuff because you got teachers here, like you guys, and them over there.

Q: Did you like touching those mounted birds down there?

Child: It was really awesome because of the feathers and they're all stuffed. Because they had real fur. It was as if you were touching a bird that had just been frozen. Everything's there, except life basically.

Q: What did you think about the way those feathers looked on the birds when you looked up close to it?

Child: You could actually see like the patterns on the feathers, the detail on them.

Child: I thought it was interesting how all the feathers, how they

folded over each other, and how it made the bird look so smooth.

Q: What is the worst thing about this trip to Creamer's Field?

Child: The bus ride, we should ride in a convertible. Have people, really rich people in convertibles take us to Creamer's Field.

Most complaints had to do with the weather not the program. Many students wanted to stay longer and do more things. Holding, petting, touching, or feeding birds were frequent requests. Portions of some activities were weak; the first year very few binocular skills were learned because proper care rather than use was stressed.

How Results Were Used

Three years of summative evaluation results have been used to annually improve Bird Week. The resulting information has benefited other programs at Creamer's as well.

Some improvements have been direct results of the focus group evaluations. Organizers continue to stress to teachers that students need to be prepared to be outside for two hours (dress adequately, have water, and go to the toilet before arrival). The binocular use activity was completely redone to emphasize using the binoculars. Samples of the grain that is spread in the fields was made available for students to touch or eat. In response to wanting to touch birds, mounted birds were displayed at the bird identification station. This allowed the students to see the birds through spotting scopes and then to closely examine mounted birds.

Other improvements were made because the results gave a better picture of how the students perceived the activities and themes presented at

Bird Week. An information package was prepared for the volunteers that provided guidelines for the activities at the different stations and pointed out the themes they should stress. This resulted in a greater emphasis on the reasons for migration and the value of refuges, as well as better run stations, and happier volunteers. It is clear that time spent in class preparing for the Bird Week field trip is extremely beneficial, so participation in the teacher orientation is a prerequisite for bringing classes to Bird Week.

Chapter Five

Discussion and Conclusion

Introduction

This chapter opens with a discussion of the appropriateness and limitations of focus groups as an evaluative tool, and addresses the simplified focus group methodology. Subsequently a model which combines evaluation and the interpretive program development process is introduced. Suggestions for future research utilizing focus groups and the new model follow. Finally this chapter looks to the future of evaluation in interpretation.

Criteria for Evaluation Techniques in Interpretation

Over thirty techniques have been used to evaluate some phase of interpretation. This barrage of techniques is often confusing, intimidating, and overwhelming to practicing interpreters. Though all the techniques are useful in some situations they are not all appropriate for use by interpreters. Some are too expensive while others are too complex. The following six criteria are proposed as guidelines which allow the interpreter to winnow out inappropriate evaluation techniques.

1. Ease of Method. If evaluation methods are not easy, they are not likely to be used.

2. Low Cost. Any sort of evaluation that the interpreter will conduct needs to be inexpensive.

3. Ability To Be Done in House. Techniques that can be done by the interpretive staff, or their associates, are likely to be used over those that require outside evaluators.

4. Implementable Results. Evaluation is of little use if its results cannot be put into effect.

5. Applicable to a Wide Range of Conditions. Interpretive programs are provided in many places, at all times, with many types of groups. Good evaluation methods should be adaptable to a wide variety of conditions without inconveniencing the visitor or the interpreter.

6. Valid and generalizable results. If the results of evaluation are to be generalized to a larger group they must be valid.

Focus Groups Are an Appropriate Technique for Direct Evaluation

Focus Groups as Direct Evaluation

Considering the trend toward a market driven approach to interpretive services (Christensen, 1986; Green, 1997) it is important that the interpreter involve the visitor in the evaluation process. They are, after all, the consumers of the 'product', the interpretive program. Direct evaluation, asking "what you need to know of those who are participants in a program you wish to evaluate" (Nowak, 1984, p. 27), is a valuable and viable means of addressing this trend.

Involving the visitor directly into the evaluation of programs has many benefits. Once visitor's interests have been discovered through front-end evaluation, interpretive programs can be designed around these interests. This approach also allows for better alignment of visitors' interests, management objectives, and interpretive services.

Furthermore, visitors enjoy and are sometimes flattered to be asked for their ideas. One formative evaluation focus group at the Tok APLIC grew uncontrollably when visitors that were asked to participate invited along

their traveling companions. As the group convened in the multipurpose room other visitors noticed and joined the crowd. The resulting focus group was too large by most standards, but the visitors were so eager to participate that the information gathered was more valuable than from any other group. Rather than being a burden on the visitors this direct evaluative effort was perceived as enjoyable, informative, helpful, and fun. Everyone applauded at the end of the session.

Incorporating visitors directly in evaluation has the further benefit of giving the visitor a greater interest in the resource. An investment of time and energy leads to a sense of responsibility toward the resource and concern about its future.

Focus groups are especially well suited for direct evaluation. In a comfortable group atmosphere, visitors respond to more than just the questions asked, they respond to each other's statements as well (Greenbaum, 1993; Krueger, 1988; Morgan, 1988). Frequently the goal of focus groups is to conduct a group discussion that resembles a lively conversation between friends and neighbors, and the simplest test of whether the technique is appropriate for a project is how actively and easily participants discuss the topic of interest (Morgan, 1988).

Focus Groups: Appropriate for Evaluation of Interpretation

Focus groups are easy, low cost, and can be done in house. Focus groups are a very accessible evaluation technique. With good communication skills and a bit of practice anyone can use this technique effectively. The simplified methods for focus groups presented in this study make the technique accessible to interpreters by organizing into one form and

format: (a) the evaluation objectives, (b) questioning schedule, (c) data recording, (d) data analysis, and (c) presentation of results. Though focus groups are often conducted under more rigorous methodology, the simplified methods of Medlin and Ham (1992) combined with the organization presented here were effective in this study.

Thus the simplified methods provide the interpreter with a technique that is easy. This technique is employed by the interpreter and his colleagues in house and is therefore cost effective. As Wagar concluded that, "A great amount of somewhat imprecise evaluation data can often be obtained at little cost in time and money and with little burden on visitors . . . . interpreters should be able to make substantial improvement in their presentations with minimal risks of being misled by data from nonrepresentative samples of visitors" (1976, p. 10).

Focus group results can be quickly implemented. Another valuable benefit of direct evaluation using focus groups is that it provides immediate feedback that can be quickly implemented (Nowak, 1984; Medlin and Machlis, 1991). For formative evaluation this is very useful because programs can be updated immediately. This is particularly important in light of the seasonal nature of many interpretive programs.

Focus groups are adaptable. Focus groups can be conducted with a variety of people and in many locations, so long as the participants share some common characteristic and the group discussion is free from distractions. Using the focus group technique with groups as different as middle aged Athabascan females, and urban eleven year old students, points to their adaptability.

Focus groups can be adapted to the type of evaluation needed or desired. In this study focus groups were exploratory in nature when used for front-end evaluation. Information about the visitors was enlightening and useful new ideas were generated. Formative and summative evaluation provided much more specific information that was used for program improvement immediately (formative evaluation) and annually (summative evaluation).

Focus Group Results: Valid and Generalizable. Focus groups results are often cited as not being valid or generalizable. However Krueger states that, "Validity is the degree to which the procedure really measures what it proposes to measure" (1998, p. 41). Consequently when focus group questions are carefully designed to illuminate the evaluation objectives they should produce valid results, assuming that participants are truthful, or are not biased by the moderator.

In general, results from qualitative methods are often described as "rich" or "deep", and focus group results typically seem valid because they spring from a believable conversation or discussion. This is known as face validity, they look right. Quantitative methods typically have a larger sample size, producing results that are described as "broad"; if they are statistically broad enough the results can be generalized to a larger population.

When focus group results have been compared to results from questionnaires there has been a remarkable level of agreement (Brown, Davis, and Mischuck, 1989; Reynolds and Johnson, 1978). Krueger believes that, "If the focus groups research has been carefully conducted and appropriately analyzed, then the user should be able to make generalizations

to other respondents who possess similar characteristics" (1988, p. 44).

Similar characteristics are important in two areas, participation in the focus group, and the generalization of the results. In the interpretive situation this similarity is an interest in the subject. Because people freely choose to partake of interpretation, they select themselves as typical participants in interpretive programs. The characteristics that bring the participants to the interpretive program are the similarities that allow them to participate in focus group evaluation, and allow the results to be generalized to other participants of that same program.

Limitations of Focus Groups

Group composition is important. In some evaluation or research situations participants in focus groups can be carefully chosen, and ideally have similar backgrounds but are strangers; this facilitates active conversation (Krueger, 1988; Morgan, 1988). This is not the case in an interpretive situation where at least some of the participants in the interpretive program and the focus group are likely to be acquainted.

Active conversations were generally the case in this study with two exceptions. While the mini-focus group with the Alaska Native rangers provided the opportunity for idea sharing and generating, it was not an active conversation. Possible reasons for this are differences between the participants and the moderator: (a) female--male, (b) employee--supervisor, and (c) native--non-native. These differences can inhibit active conversation. Cultural differences are important and it must be noted that Athabascan Indians have a much different conversation style from non-natives, normally their conversation is much less active (Noland and Gallagher,

1989).

The second exception to active conversation was with students in focus groups during Bird Week. In this instance many students wanted to talk at once, and order had to be imposed. Only one was allowed to speak at a time. This was necessary for data recording, and to insure that less vociferous students had an opportunity to be heard, but it stifled some comments and made the conversation abnormal for fifth graders.

There were some other difficulties in working with children. Focus group participants at the Bird Week evaluations were classmates of different sexes, and the groups tended to be large. Problems associated with this group composition surfaced: (a) different levels of maturity between eleven year old males and females impaired the conversation, (b) some individuals dominated the conversation while others were reticent, and (c) the large size of the groups meant there was not time for some questions and opinions. These problems are well known and documented (Hoppe, et. al., 1995; Morgan and Krueger, 1993; Ralphling and Keane-Timberlake, 1997).

Common practice is to repeat focus groups until little new information is revealed, generally after three or four groups (Krueger, 1988; Morgan, 1988). The particular composition of Bird Week's focus groups required more than the usual number of repetitions to yield sufficient information for evaluation.

The interpreter may bias the results. A weakness of focus groups is that their moderators may bias the interviews. This danger is compounded with the simplified methods in which the interpreter is moderator, data collector, analyzer and report preparer. Ultimately only the interpreters' honesty,

objectivity, and constant awareness can overcome their biases, but some precautions can be taken: (a) the questioning schedule should be reviewed by someone other than the interpreter, (b) interpreters as moderators must be careful of their verbal and nonverbal communication during the focus groups to avoid influencing the participants, and (c) if possible interpreters should not evaluate their own programs.

Poor questions yield poor results. Unless focus group questions are formulated to elicit responses that will illuminate the evaluation objectives the results will not be useful. Therefore it is important that questions used in focus groups be checked by others who are familiar with the subject matter. They should be pre-tested to see if they are understood and generate appropriate responses.

Summary of Focus Groups

Focus groups are an excellent tool for the evaluation of interpretive programs, however, they are not the definitive technique for all types of evaluation. There are numerous evaluative techniques that maybe more appropriate in other situations. Also, using different techniques to corroborate each other (triangulation, or independent verification) is often wise. However, considering the intent of focus groups is not to quantify reality, but rather to understand the perceptions, attitudes and opinions of their participants (Franklin and Knight, 1995), and that "All too often, evaluation is not used as the important tool it could be because educators feel inadequately prepared to use complex evaluation techniques" (Nowak, 1984,

p. 27) the benefits of providing easy to use evaluation techniques to interpreters outweigh the technique's limitations.

The Synthesized Model

Integrating Program Evaluation and Development

Evaluation should become an integral part of the program development process. Evaluation will increase the likelihood of a program's success, but typically program evaluation is an afterthought, and may occur so late in the process that it is ignored or its suggestions cannot be inexpensively put into practice.

If integrated into the program development process, evaluation would be timely and less expensive. It is unlikely with decreasing budgets that evaluation would be funded alone. The combination of evaluation and development makes the entire process more productive and the product more effective.

In order to address the problem fully a model from the field of visitor studies which integrates evaluation and program development is adapted to interpretive services (Figure 6). Each of the model's three stages has an opportunity for evaluation: front-end, formative, and either remedial or summative. The "Brilliant Idea" stage consists of program conception and initial planning; it incorporates front-end evaluation for visitor identification and further idea generation. The "Program Development" stage includes formative evaluation to repeatedly refine prototype programs. Finally the "Program Implementation" stage is followed by summative or remedial evaluation.

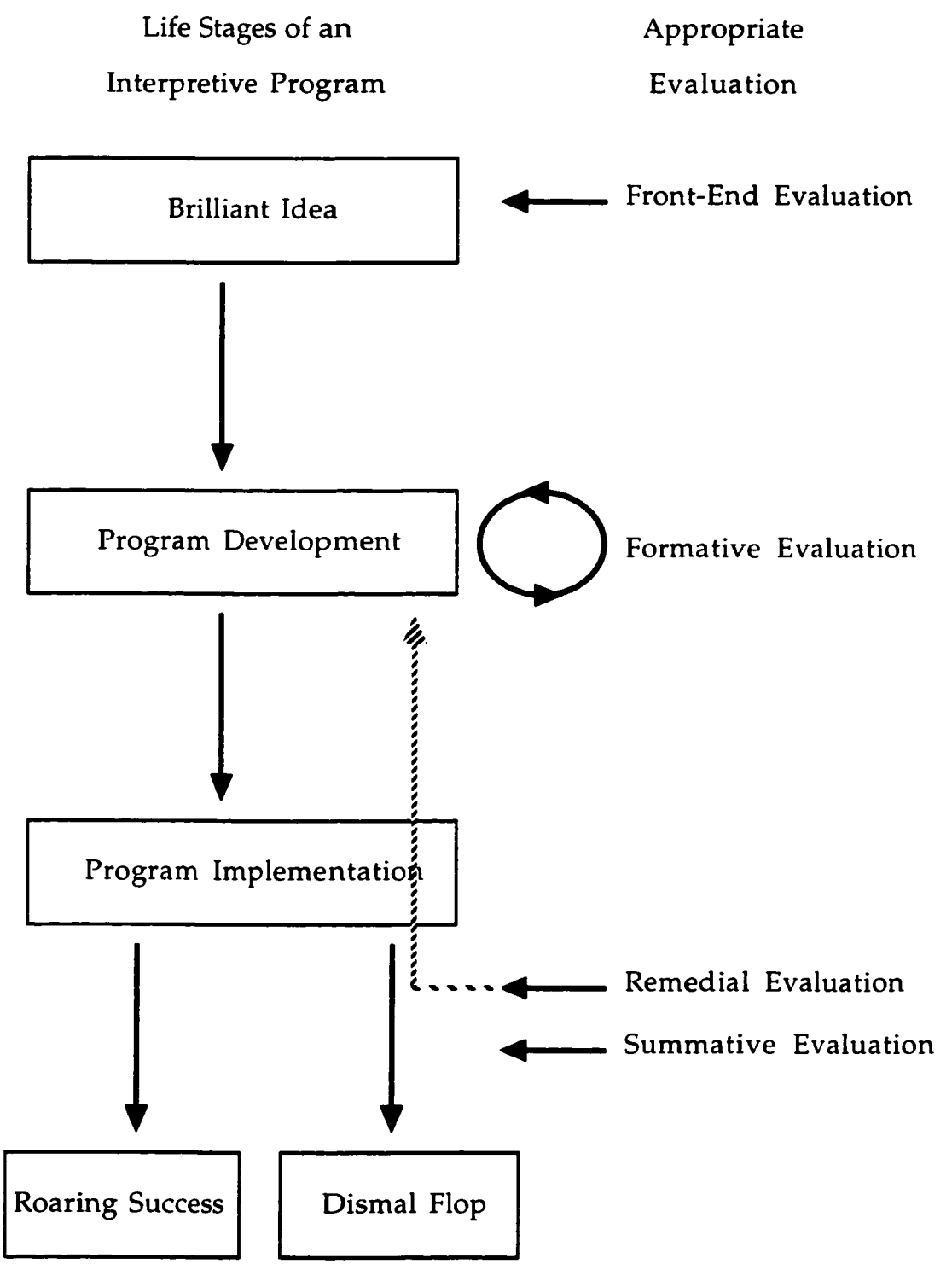

Figure 6. The Synthesized Model.

Adapting the visitor studies model to interpretive services incorporates evaluation into program development, and provides an opportunity for direct evaluation at each stage of the integrated process. Direct evaluation, involving the visitors in front-end, formative, and summative or remedial evaluation, is desirable, and using focus groups is an excellent way to achieve this.

Origin of the Synthesized Model: Visitor Studies

Visitor studies began in museums, but now includes other venues: zoos, aquariums, parks, theme parks, historic settings, nature centers, and similar attractions. Only recently has evaluation been seen as an integral part of the program and exhibit development process. As Bitgood and Loomis state, "One of the most unique contributions of the visitor studies field has been Screven's development of a comprehensive model of exhibit evaluation (e.g., Bitgood & Shettel, 1993; Bitgood, Shettel, & Williams, 1991, Screven, 1990; Shettel & Bitgood, 1993)[3] " (1993, p. 688). This model evolved from the evaluation efforts of museum studies.

The visitor studies model has three stages, each with appropriate evaluation: (a) the planning stage and front-end evaluation, (b) the preparation stage and formative evaluation, and (c) the post installation stage and remedial or summative evaluation. Input by professionals and visitors is called for at each stage.

Discussion of the Synthesized Model

Combining program evaluation and development in the Synthesized Model efficiently produces effective programs. Inclusion of evaluation into the program development process leads to improved programs as

exemplified by the Alaska's Three Bears and Bird Week programs that were the subjects of this research. Program improvement is one of the reasons for evaluation stated by Roggenbuck and Propst (1981), or as others have stated, one of the benefits of evaluation is more effective programs (Wagar, 1976; Wright and Wells, 1990).

Not only do evaluation and development compliment each other to produce more effective programs, but the process is more efficient. The combination of program evaluation and development by the Synthesized Model is quicker and less expensive than if both were done separately. Programs at the Tetlin NWR and the Tok APLIC have been easier to develop because of the knowledge gained about the visitors, and to change by asking for and receiving feedback from the visitors. This efficiency is highly desirable in face of budget cuts (Knudson and Morfoot, 1979; Morfoot, 1980; Wagar, 1976), and the historical lack of emphasis placed on evaluation (Roggenbuck and Propst, 1981).

Suggestions for Future Research

This research dealt with personally conducted interpretive programs, not non-personal interpretation (e.g. brochures, wayside exhibits, audio or video presentations). Because the Synthesized Model was an outgrowth of this research the study did not track one interpretive program through the entire evaluation and development process.

Thus there is a need for further research. The Synthesized Model should be tested with focus groups providing direct evaluation for a single program throughout its development process. Future research should include focus group evaluation of non-personal interpretive presentations, as

well as personally conducted programs.

Summary

Interpretation is changing as we head into the new millennium. Financial constraints create an environment where agencies and the private sector must prove the value of interpretive positions and programs. At the same time the relationship between agencies and their visitors is changing interpretation. For the interpreter and manager alike the relationship with the public is evolving from reluctant acceptance to one of inclusion. These changes are expanding and reshaping interpreters' jobs into new roles. As resource management becomes more responsive to the public, and as efforts continue to incorporate the public into planning and management decisions, interpreters are more likely to play a role in the public input process (Vander Stoep, 1994).

Because interpretation is a communication process, Vander Stoep believes that it will be used as a management tool to reduce social conflicts and resource impacts, and "to increase the quality of recreation experiences, to gain support for management practices, to use as an outreach service, to facilitate development of an environmental ethic, and to facilitate public relations between resource managing organizations and other community organizations and businesses" (1994, p. 23).

In light of these financial and managerial changes interpreters must change the way they approach their jobs, programs, and visitors. This study provides the means for interpreters to take an active part in defining their personal futures, the future of their profession, and resource management in general. Evaluation is the key to retaining funds, expanding jobs, including

the visitor, and influencing management. It is the key to shaping the future.

In order to provide the interpreter the tools to be more effective, involve the visitor, and facilitate more evaluation of interpretative programs this work has: (a) proposed a model integrating evaluation and program development, (b) suggested using direct evaluation at each stage of the model, and (c) provided a simple, cost effective technique that can be used for direct evaluation, focus groups.

Direct evaluation is an appropriate means of evaluation for interpretive programs and the focus group technique is a good method for direct evaluation. Combining evaluation and program development through the Synthesized Model is more effective and efficient than keeping them separate. The combination of these components: (a) the model, (b) direct evaluation, and (c) focus groups, creates a powerful tool for today's interpreter that will be useful in assuring high quality interpretation in the twenty-first century.

Footnote Index

[1] These improvements may blur the distinction between summative and remedial evaluation that is made for museum exhibits (Bitgood and Loomis, 1993), but any good interpretive program should be continually updated and improved. The two terms are less different when applied to programs or presentations than when referring to less flexible exhibits.

[2] C. Frank Brockman, retired from a long career at Mount Ranier National Park. Brockman's article, Park Naturalists and the Evolution of National Park Service Interpretation through World War II, in the January 1978 *Journal of Forest History* is excellent.

[3]These citations are not readily available therefore the model presented is from Bitgood and Loomis, 1993.

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